TECHNOLOGY DEPT.

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · MACHINERY · PARTS · ACCESSORIES · TOOLS

Vol. 15. No. 1981 — Entered as second-class matter Aug. 27, 1925, Post Office, N. Y., N. Y. Under Act of March 3, 1879 — NEW YORK, SATURDAY, MAY 13, 1933 — 5 Cents. $12 Per Year.

Southern States Strongest In First Quarter New Car Sales; Only 10% Below 1932

Nine Out of Fourteen States in Southern Tier Show Actual Sales Gains Over Last Year; Average Decline for All Areas 15%

By WILLIAM C. CALLAHAN

New York, May 12.—Southern states as a whole have made the best sales show in the first three months of this year, as compared with other sections of the country, according to an analysis of the first-quarter new passenger car registrations which were published in Automotive Daily News yesterday.

While the group as a whole shows sales running approximately 10 per cent. under the first quarter of last year, a number of states in the Southern tier showed actual gains over the last year figure. In fact, nine of the fourteen states which have been more or less arbitrarily classified as Southern states show gains while the loss for the entire groups is accounted for in the rather sharp declines in the remaining five states.

The hardest hit section according to this analysis was that district which is referred to as the Rocky Mountain section. This section, comprising the states of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming, showed an aggregate loss as a section of 26 per cent.

The average loss in all sections was about 15 per cent. from the first quarter of 1932. The New England

(Continued on Page 12)

RETURN OF BEER AIDING MAKERS OF TRAILERS, TRUCKS

Cincinnati, May 12.—During the past eighteen days the average number of trailer orders received per day by the Trailer Company of America, successor to the Lapeer Trailer Corporation and the Trailmobile Company, has exceeded the average number of trailer orders per day received during any previous year of the company's history, including the prosperity years of 1928 and 1929.

The return of beer is held primarily responsible for this abnormally good business.

Louisville, Ky., May 12.—The Kentucky Manufacturing Company, Louisville, successors to the former Kentucky Wagon Manufacturing Company, reports a much better volume of business in hand on

(Continued on Page 11)

GOODRICH OUTPUT UP TO CAPACITY 6 DAYS

Akron, May 12. — Announcement of a 200 per cent. increase in tire production over March in the Akron, O., factories of the B. F. Goodrich Company was made today by President J. D. Tew.

For the first time since October, 1929, Goodrich tire departments will operate six days a week, twenty-four hours daily, beginning May 15. The increase includes a 40 per cent. boost in tire production, made April 1. New schedules will bring re-employment for a number of former employees. Six hundred workers have been re-employed in the Goodrich mechanical goods division in thirty days.

CASTNER APPOINTED DIRECTOR OF WHITE DEALER OPERATIONS

Cleveland, May 12.—Paul H. Castner has been appointed director of White dealer operations, it has been announced by George F. Russell, vice-president and sales manager of the White Company, Cleveland. Mr. Castner had been Studebaker truck sales manager, with headquarters at South Bend, Ind. In his new

P. H. Castner

(Continued on Page 12)

MICHIGAN TRUCKERS, DEALERS CAMPAIGN AGAINST HIGH TAXES

Grand Rapids, Mich., May 12.—Taking three-quarters of a page advertising space in local newspapers, a group of Grand Rapids truck dealers and truckers began a campaign against a growing sentiment that trucks be taxed equivalently to

(Continued on Page 2)

April Truck Sales in 12 States And D. of C. Only 27 Below 1932

If This Ratio Has Been Maintained in All States During April the Total Commercial Car Sales For the Month Will Be 17,700

Detroit, May 12.—One of the outstanding features of the sales returns so far in hand for April, 1933, is the remarkable comeback staged by commercial cars. R. L. Polk & Co. has just received commercial vehicle sales figures for April in twelve states and the District of Columbia. The total number sold during April just past in this territory was 3,600, comparing with 3,627 in the same area in April a year ago. The difference amounts to less than 1 per cent.

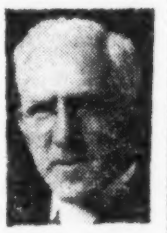
If this ratio continues in the sales reports from the other thirty-six states still to send in their returns, April truck sales will total in the neighborhood of 17,700 units, which would compare with 17,777 in that month of 1932.

Commercial car sales have been running heavily behind passenger car distribution; in fact, the first quarter must have been off from 1932 totals by some 40 per cent. This sudden spurt is all the more pleasing. Certainly the purchase of brewery transport equipment has helped, though there would seem to be more far-reaching causes behind the gratifying increase. The following table shows the states so far reporting commercial car sales for April, with the comparative figure for the same month a year ago also given:

	Apr., '33	Apr., '32
Delaware	77	65
Illinois	1,371	781
Maryland	215	265
Michigan	292	595
Minnesota	258	452
North Carolina	394	304
North Dakota	37	84
South Carolina	197	138
South Dakota	38	67
Utah	69	71
West Virginia	200	232
Wisconsin	372	444
Dist. of Columbia	80	129
Total	3,600	3,627

CONTINENTAL MOTORS ACTIVITIES GAINED 50% DURING APRIL

Detroit, May 12.—W. R. Angell, president of the Continental Motors Corporation, in announcing the new de luxe Beacon line yesterday called attention to the excellent showing made by his company in other fields in April. Production and sale of truck, taxicab and industrial engines showed a marked improvement in April, the gain over March being more than 50 per cent. Taxicab engines sold exceeded by 50 per cent. the total for the entire quarter of 1933.



W. R. Angell

Mr. Angell called attention also to the fact that export of Continental engines is increasing rapidly, especially to the Orient, where many units are going into the Manchurian war zone.

In this connection it is interesting to note that Senor Roberto Valenzuela, distributor of Continental cars in Torreon, Mexico, has just left the factory with a drive-away of ten cars. Five drivers are being used, each driver towing an extra car. The distance traversed will be 1,900 miles and the saving on freight will be about $700.

COLLINS & AIKMAN MAY SCHEDULES UP 30%; BEST IN 2 YEARS

New York, May 12.—Collins & Aikman Corporation, manufacturers of automobile upholsteries, report that increased schedules for May for new type mohair velvets have

(Continued on Page 12)

AUBURN SHIPMENTS IN FIRST 10 DAYS OF MAY TOP ENTIRE MAY, 1932

Auburn, Ind., May 12.—Shipments from the Auburn Automobile Company for the first ten days of May equal shipments for the entire month of May in 1932, according to W. H. Beal, president.

He says: "At this rate May shipments will treble shipments for the same month last year."

W. H. Beal

STEWART-WARNER EMPLOYMENT GAIN

Chicago, May 12.—The Stewart-Warner Corporation announced Thursday that employment has been stepped up 70 per cent. to take care of current sales and in anticipation of the introduction of a number of new products.

New items and models to be put on the market include a brake unit, a free wheeling type unit, an electric refrigerator, an automatic clutch and a line of movie cameras and projectors.

ALLIANCE OF RETAIL TRADES ASSOCIATION MEETS WITH SUCCESS

San Francisco, Cal., May 12 (UTPS).—The campaign of the recently organized Alliance of Retail Trades Association is progressing with marked success among the independently owned service stations, garages and automobile repair shops.

The plan of the alliance is simple. It seeks no membership as such but merely stipulates that each independent they deal with must be a member of his own trade association. The alliance charges no membership fees. It loans each independent dealer an insignia or emblem, which consists of a keystone with the slogan "An Independent Business." This is displayed prominently by the store or shop. This enables the independent in any other line of business to recognize the shop and to trade with that shop in prefer-

(Continued on Page 11)

M. E. M. A. ELECTS EIGHT NEW MEMBERS

New York, May 12.—Eight new members have become affiliated with the Motor Equipment Manufacturers Association within recent months, according to a report sub-

(Continued on Page 3)

The Automotive Industry Will Lead

An Editorial

GIVE the automotive industry a chance and it will lead the way out of the economic depression that has held us in its grip for three and a half years.

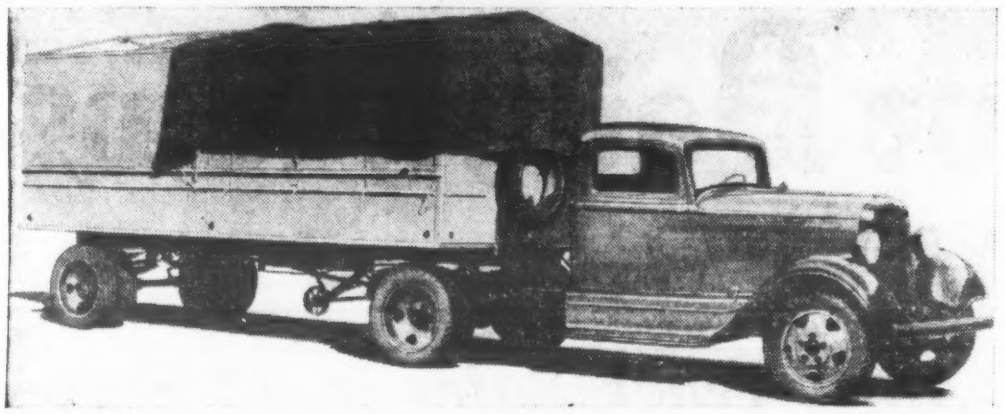
During the years between 1914 and 1929 it was the automotive industry which lifted the financial condition of this country to a new high level and created a new standard of living for Americans. Granting that conditions induced by the World War poured money into the lap of this one great producing country that was free from active participation in the embroilment, still the automotive industry was an important factor in our development, even in the period from 1914 to 1917.

After the war, when we were faced with the primary depression which always follows major conflicts a year or so after hostilities cease, it was the automobile industry which pulled the country as a whole out of the clump. It was our industry's production of 2,600,000 *vehicles in* 1922 *and* 4,180,000 *units in* 1923 *that put the United States back on the high road to prosperity. It was the continuing activity represented in the production and sale of motor cars and motor trucks which led the way in maintaining the prosperity that lasted until the middle of* 1929.

Then came the beginning of the secondary depression, which actually began in the middle months of 1929, though it was not completely realized by the general public until the stock crash came in the fall of that year.

Naturally enough, the economic experts turned to the automotive industry to lead the way out of the secondary depression, once that misfortune had fastened its fangs on the country. The automotive industry made noble efforts to perform this herculean task. It puts its financial house in order, improved its product, dropped its prices, spent its money in advertising. As one economist expressed it: "The automotive industry has fought

(Continued on Page 4)



THE DODGE new 1½-ton chassis, with cab and combined with a semi-trailer provides a formidable vehicle. Trailer is equipped with "double line" attachment for operating brakes. Spare tire is mounted on the forward end of the trailer

MICHIGAN TRUCKERS, DEALERS CAMPAIGN AGAINST HIGH TAXES

(Continued from Page 1)

railroads... Throughout Michigan leagues and clubs are being formed to present the railroad's side of the question. The dealers and truckers have banded together in a fight against its will, they declare, being forced to protect themselves against the railroad's attacks.

Plain facts about motor truck operation and railroads were presented in the advertisement. Stating that bills have been or are being introduced in almost every state legislature which will seriously cripple, if not entirely eliminate, operation of trucks and trailers, the advertisement asks if these bills are the will of the people or are they being sponsored at the request of an individual industry for their personal gain.

Decrease in carloadings is in direct ratio to decline in industrial production. Railroad traffic is off largely because general business is off, it was stated. Stopping operation of all trucks in the United States would only add 6.3 per cent. to the total rail freight volume of today, the advertisement says, going on to add that if railroads had every ounce of truck freight traffic they would still be 44.3 per cent. behind their 1929 volume—or in practically the same fix they are in now.

Only 1 per cent. of all trucks are in interstate service; privately owned and operated trucks amount to 85.8 per cent. of the total, with farmers using 27 per cent. of all trucks in service, according to the advertisement. Other statements emphasized that less than 10 per cent. of assets of banks, loan and trust companies and insurance companies are in railroad securities; that the automotive transport industry employs twice as many people as the railroads; that of every dollar spent for gasoline, 30 cents goes for tax, with taxes paid by commercial vehicles in 1932 exceeding taxes paid by all railroads by forty million dollars, and that taxes paid by highway users have increased from 1929 to 1931 $97,000,000, while taxes paid by Class 1 steam railways declined $5,000,000 during the same period.

The advertisement outlined how trucks and trailers are serving the public, with sections showing truck operators are no more prosperous than railroads, and the farmer worse off. Ending on a plane of helpfulness, the advertisement suggests that railroad leaders modernize their industry as the automobile industry has, and that the fight cease, as there is work for all.

Mack Will Stay on The Quality Standard

Extended periods of depression present almost irresistible temptations to go off the quality standard. Through boom years and lean years, Mack has steadfastly held to the principle that QUALITY is the only foundation for lasting customer-satisfaction. Mack will continue to do so.

There will be no moratorium on Mack Quality.

MACK TRUCKS, INC.
25 BROADWAY, NEW YORK, N. Y.

REPLACE RECEIVER FOR GRAND RAPIDS BODY CO.

Grand Rapids, Mich., May 12.—An order replacing John E. Frey and Carroll F. Sweet as receivers for the Grand Rapids Body Company, which formerly made bodies for Dodge and other automobile companies, was filed in Circuit Court here. Arch A. Anderson was named new receiver. The former receivers, who had attempted to operate the plant, were ordered to turn over to their successor all money on hand, assets, property, books and records. Action was on petition of the Hayes Body Corporation and other creditors.

NEW USED CAR LOT

Grand Rapids, Mich., May 12.—A. G. Rasch Motor Company, north end Ford dealers, have opened a new used car lot at 2165 Plainfield Ave.

Costlier cars are not better
—they are just bigger

THE AMERICAN
Austin

America's Most Economical Passenger and Commercial Cars

$275 up F. O. B. Factory

Write for details about non-conflicting and valuable franchise

American Austin Car Co., Inc., Butler, Pa.

FINANCIAL NEWS

BRIGGS

Detroit, May 12.—Briggs Manufacturing reports for the quarter ended March 31 net loss of $895,963 after depreciation, taxes, etc., comparing with loss of $953,993 in the first quarter of 1932.

HAYES BODY

Detroit, May 12.—Hayes Body and subsidiaries report for the quarter ended March 31 consolidated net loss of $98,195 after depreciation, interest, etc., comparing with net loss of $100,597 in the first quarter of 1932.

HERCULES MOTOR

New York, May 12.—Hercules Motor shows for the initial quarter to March 31 net loss of $43,975 after depreciation, taxes, etc., comparing with net loss of $48,567 in the first quarter of 1932.

MOTOR FINANCE

New York, May 12—Motor Finance declared a 20-cent quarterly dividend on the no par common, against 25 cents paid formerly. Payment is due May 31 to holders of record May 24.

UNITED-CARR

New York, May 12.—United-Carr Fastener and subsidiaries report net loss of $23,078 after taxes, depreciation, interest and other charges. This compares with net income in the 1932 quarter of $781, equivalent to less than one cent a share on 250,000 no par shares of common stock.

VACUUM OIL

New York, May 12.—The Vacuum Oil Company, Inc., subsidiary of the Socony-Vacuum Corporation, has purchased the Brite Star Oil Company of Ohio, capitalized at $150,000, it was announced yesterday. The Brite Star unit does a wholesale and retail oil business, mainly in Summit County, Ohio.

M. E. M. A. ELECTS EIGHT NEW MEMBERS

(Continued from Page 1)

mitted to the board of directors on the activities of the membership committee by A. H. Eichholz, general manager.

These new members are: The Brown Company, Berlin, N. H.; Huffman Manufacturing Company, Dayton, O.; Keasbey & Mattison Company, Ambler, Pa.; Murray Rubber Company, Trenton, N. J.; Philco Radio and Television Company, Philadelphia, Pa.; Soss Manufacturing Company, Roselle, N. J.; Superior Piston Ring Company, Detroit, Mich., and York Corrugating Company, York, Pa.

CREDIT WHERE DUE

The new car registration figures from the cities of Pittsburgh and Philadelphia which were shown in Automotive Daily News yesterday were supplied through the courtesy of the Pennsylvania Motor List Company, sole compilers of this information in the state of Pennsylvania. The New York metropolitan figures were supplied through the courtesy of Sherlock and Arnold, sole compilers in that area.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

SPARKS from DETROIT

Prices

* * *

Chrysler's Air Trip

* * *

Ford's Campaign

* * *

Olds Honored

* * *

Chris Sinsabaugh
Detroit Editor

IT seems to be in the air, this feeling that automobile prices are going up. But when? There are some who say something is going to happen in a week or ten days, while the conservatives, although agreeing that advances are bound to come, opine that July is the more logical date. In support of this, they point out that generally commitments for materials are made for a six-month period and rising prices for supplies do not influence present production. Around about the latter part of June this influence will be felt in plans for the balance of the year.

* * *

BE THAT AS IT MAY, though, this commentator finds that there seem to be some grounds for anticipating advances very shortly. He hears of one company which has notified its dealers that it cannot guarantee present prices, which seems tantamount to passing along the word, "Be ready for an increase." But, of course, this is of "grapevine telegraph" origin and not official.

My private hunch is that there will be some price advancing in the very, very near future, but who will fire the first gun is something else again.

* * *

OUTSIDE OF THE DETROIT area I find one company—Nash—which is throwing out a strong hint. The company is advertising "No Change in Nash Prices Yet" and its sales director, C. H. Bliss, follows this up with a publicity release built around the question asked him: "Do you anticipate an early increase in automobile prices?" in which he discusses advances in the prices of commodities and materials, the improvement in general business, etc., and winds up with, "If this condition continues, it is quite evident that we must look forward to an increase in automobile prices."

* * *

VARLEY YOUNG, handling Chrysler's world's fair publicity, lets slip the details of one of the attractions his big boss has prepared for the visitors who check in at the Chrysler building in the Century of Progress exposition—an airplane trip across the United States in eight minutes!

This transcontinental aerial journey will be had in a cyclorama planned by Boucher of New York at a cost of more than $50,000. The cyclorama is 105 feet in circumference and takes eight minutes to complete one revolution. As the ballyhoo goes, while the spectator gazes through one of the thirty windows regularly spaced around the building, this huge revolving aerial illusion goes through all the varying degrees of light every five minutes. The cycloramic trip begins in New York, touches Windsor, Ont., and Detroit, of course, so you can see the various Chrysler plants, and then to the Pacific Coast. The return trip will take you to Boulder Dam, through Indiana and more Chrysler plants, and to Washington, D. C.

* * *

ADVERTISING SALESMEN in this neck of the wood are keenly watching the Henry Ford campaign that has been started in the dailies, and which will consist of four pieces of copy in which the sage of Dearborn will discuss industrial subjects rather than tell about the cars he makes. They're hoping this will lead to Ford advertising his own products later on.

The optimists base this hope on the fact that the Canadian Ford company has contracted for a series of ten advertisements to run in leading papers throughout the Dominion, and they think maybe this is a forerunner to Ford coming back into advertising in the States, too.

* * *

OLDSMOBILE HAS LANDED one of the plums at Indianapolis through the selection of a straight eight convertible coupe, finished in light gray with carrot yellow trim, as the official car of the big race. It will be used by Col. E. V. Rickenbacker, chairman of the A. A. A. Contest Board, and other race officials.

* * *

JUST TO TELL the outside world how they're selling cars in Detroit right now, there's Al Schreiber, manager of the Pontiac Retail Store, who boasts that on April 29 his organization had the largest single day of new car sales recorded in the last two years—seventeen Pontiacs delivered on that date. Schreiber's store was 338 cars ahead of its 1932 sales total for the four months at the close of April.

Production—Engineering—Factory

Edited by Herbert Chase

Nothing New Under the Sun Nor in the Patent Office

While the Patent Office may appear superficially dry and uninteresting, the man with an imagination can find much of interest in the ideas embodied in old patents. He can also find the germs of many ideas which are now practically translated into devices and equipment used on the most advanced vehicles that engineering has given us.

Our British contemporary, The Autocar, recently sent one of its engineers into the Patent Office to do some research work. We do not know how that particular work fared, but the enterprising reporter certainly came out with some interesting things that he had found in the old records of that office. Many of these are equally as interesting to engineers on this side as showing that there are few things wholly new. The article follows in part:

Naturally, as my researches were confined to vehicular patents, the names of eminent coach builders were much in evidence, but it was rather surprising to find the very first name on record in January, 1867, is that of Joseph Cockshoot, who took out a patent for metal framing for bodywork and hinge covers to keep out the water from the door shuts. In the same month of that year a Mr. Chaffee duly protected a method for separating the leaves of road springs by inserting thin leaves of rubber or metal between them; the object was not stated, but presumably it was to render the springs more silent.

February, 1867, records the invention by R. D. Napier of a band brake operated by a pivoted lever working on a drum inside the wheel. This surely must have been the hoary ancestor of all motor car brakes. In March, 1867, E. Harvie took out the first of a long line of such patents for opening and closing the head of a carriage by spring lifts. So far as my search carried me, this culminated in a device recorded by J. Offord for opening and closing the heads of bodies by means of a pulley and windlass with cables, operated from the driving seat, in February, 1868.

In April, 1867, J. K. Mayo patented the method of making panels by means of cementing veneers together, with the grain of the veneer running crosswise, lengthwise or traversely in alternate layers—"Grandpa Plywood"! Follows E. Boby in April of that year with an excellent design of a swivelling stub axle provided with a dustproof hub and efficient means of lubrication by an oil box cast integral with it.

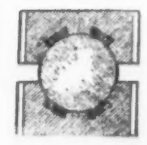
In May, 1867, G. Wilson reserved the right to make axles from Bessemer steel blooms subjected to "cementation" and hardener by hammering; this must have been a decided advance in metallurgical processes. Evidently the methods of lubricating axles adopted for Pharaoh's chariot were proving quite inadequate for the terrific (!) speeds of that day, for we find an almost unending procession of ideas for dealing with this problem.

Here are a few specimens: May, 1867, A. V. Newton protected a self-lubricating bearing with strips of pasteboard inserted lengthwise in the brass journals and saturated by lubricant before assembly. In November, 1867, H. A. Bonneville conceived the idea of a ring on the axle drawing oil from a reservoir in the axle box, throwing it round the chamber formed in the axle box and returning the oil by tubes or ducts provided for this purpose. This idea, although conceived for road vehicles, seems to have been generally adopted for high-speed stationary machinery prior to the advent of efficient ball or roller bearings.

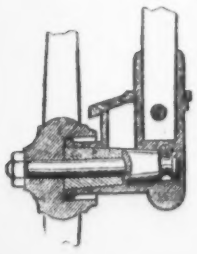
In the same month S. A. Chase brought out an idea in which the road wheels revolved on small wheels running on the hubs of large wheels. This appears to be the germ of ball and roller bearings, for we find the idea rapidly evolving until we come to an extraordinarily modern looking idea of the axle revolving on hardened steel rollers in a lantern cage, with ball bearings to take the end thrust. This was by M. Rueff, in May, 1872. An attack on the problem from another angle was made by S. Cohne in January, 1874, who devised a self-lubricating axle formed by a sleeve of asbestos steatite and plumbago molded with liquid potassium dipped in paraffin or ozokerit with or without a vacuum to insure saturation.

Brakes appear to have produced large crops of ideas, the favorite undoubtedly being to use the forces which are set up by braking for restarting the vehicle. Springs, weights, compressed air and flywheels were all suggested for this purpose. Growing out of these schemes was the somewhat crude, but none the less definite, thought of the self-energizing, and in one case hydraulic, brake. An example of the first is that of T. Comfield, December, 1867, a provisional specification only, for brakes first actuated by hand, the friction of the brake applying further pressure through cams or toggle joints. An instance of the second is in S. Butler's provisional specification, November, 1880, intended for railway work, but stated to be applicable to other vehicles in which "the backward pressure of the tractive agent is transmitted to

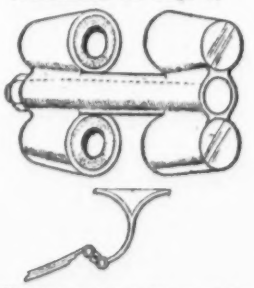
(Continued on Page 7)



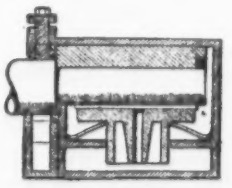
(Right) A self-lubricating bearing on which a patent was obtained in 1867.



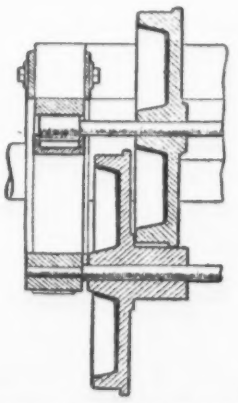
(Left) Swivelling stub axle with dustproof hub and its own lubricating system — another idea of 1867.



Rubber-lined spring shackle patented by E. B. Taylor in 1877.



A means of axle lubrication evolved before the advent of efficient ball or roller bearings.



What appeared to be the germ, in 1867, of the modern ball or roller bearings.

SPARTON HAS NEW ALL-ELECTRIC RADIO

The Sparks-Withington Company, Jackson, Mich., has just announced a new all-electric automobile radio set designed to retail at $59.50. It is termed Model 33 and involves a six-tube superheterodine circuit.

The chassis is an entirely self-contained unit requiring no B-batteries and no external eliminator or connecting wires are needed. Included in the set are a matched antenna input circuit, a stage of tuned radio-frequency amplification, a combination first detector-oscillator, a band-pass filter intermediate frequency stage, a duplex diode-triode full-wave detector, automatic volume control and first audio amplifier stage, a super-power pentode output stage and an electric-dynamic speaker.

A remote-control unit for mounting on the steering column is provided. The chassis is mounted in a case measuring 9⅜ x 7⅝ x 5¾ in., the speaker being in a separate case. Special display stands are being made available to dealers at $5.

Trailer Equipped for Lightning Demonstration

During the next few months two Westinghouse engineers will tour the country in a car having a trailer with a mobile lightning generator to demonstrate to utility engineers and executives how modern equipment for transmission apparatus minimizes the effects of lightning strokes and voltage surges on power systems. The trailer will be equipped with surge-proof transformers, lightning arresters, de-ion protectors and other equipment to show now lighting, striking the line or near it, does not even make the lights flicker. The "man-made" lightning is produced by a 280,000-surge generator, which can be controlled and made to produce effects exactly like natural lightning.

The trailer carries not only the surge generator, with attendant equipment for producing surges, but also a complete equipment of a power distribution system.

AMERICAN STANDARDS YEAR BOOK ISSUED

The American Standards Association has issued what is termed the 1932-1933 Year Book, no separate edition having been issued in 1932. It contains information on how standards are developed and gives a list of approved American standards, an index to uncompleted A. S. A. projects and other information regarding the association and its work.

Ford Co. Issues Bulletin to Fleet Owners on Reconditioned Motors

The following bulletin on announcement of new policy and prices of reconditioned motors has been sent to fleet owners by C. A. Esslinger, manager of the Ford Motor Company at Edgewater, N. J.:

Model A and B, four cylinder, factory reconditioned, $28 to fleet owner; Model 18 and 40, eight cylinder, factory reconditioned, $30 to fleet owner. (Prices are based on removal of motor from chassis and replacement of reconditioned motor in chasis by fleet owner.)

We are certain that this announcement should interest you, because of the additional economy in transportation which this policy will effect for you.

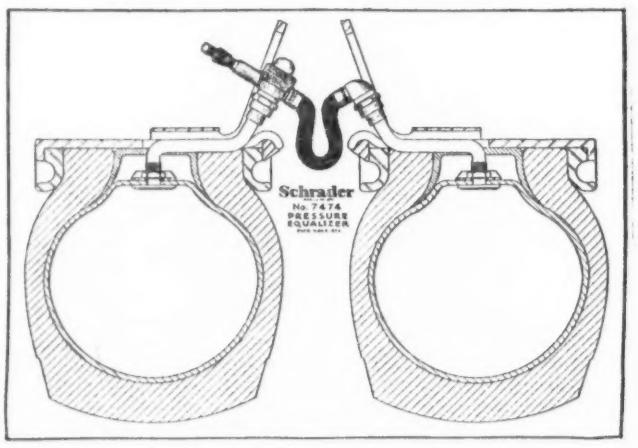
If you prefer to have the entire operation performed by your local dealer in his shop the charge for the reconditioned motor, complete, installed in chassis, will be: Model A and B, four cylinder, $37.50; Model 18 and 40, eight cylinder, $40.

The above prices are quoted on reconditioned cylinder block assembly only, and if it is necessary to repair or exchange carburetor, distributor, starter generator, they will be charged for at standard labor schedule prices. New gaskets will be used in all assemblies at no extra charge where complete operation is performed in dealer's shop.

In the metropolitan area all transportation charges are included in above prices, but in outlying sections, where dealer's cost of transportation exceeds $2, such transportation charges will be added to the above prices by dealer.

Under our new policy of motor reconditioning, the entire operation will be performed at our Rouge Plant, where the most modern and time saving equipment is in use, and the greatest precision is assured through the use of specially designed fixtures, precision gauges,

(Continued on Page 12)



Attention Bus and Truck Operators

The Schrader Pressure Equalizer

puts an end to dual tire destruction due to unbalanced tire pressures

Both tires inflated as one! Each constantly equalized at the same pressure as the other at all pressures above a preset pressure! — plus being guarded by an automatic safety valve. That's the nub of the story of convenience and economy the new Schrader Pressure Equalizer offers bus and truck operators.

No more inconvenience in inflating and gauging inside dual. No more reason for driver to neglect proper inflation. Through a single unit *both* duals can be inflated in one operation; and tested by a single application of the gauge.

What's more, the pressure will be exactly alike in both tires. And it will *remain* evenly balanced. Should operating conditions of heat, etc., increase the pressure in one tire above the initial pressure, the excess is equalized between *both* tires.

Not only that. Should a puncture or blow-out occur in one tire, an automatic safety valve closes and retains a temporarily safe operating pressure in the uninjured tire.

The famous Schrader Dublchek Cap is standard equipment on the Schrader Pressure Equalizer. Inflate and test pressure right through the cap. Nothing to remove. No chance of loss of air through valve stem. Dublchek is guaranteed air-tight up to 250 pounds pressure.

Operators of dual-tire trucks and buses have long demanded such a device as the Schrader Pressure Equalizer. It's here! Assures greater operating efficiency; better road grip, braking conditions and driving safety; time-saving air servicing . . . *And positively increased tire mileage.* (Extended tests on large bus fleet installations in various parts of the country indicate possible mileage increases as high as 20 to 50%).

Equip your bus, truck or trailer duals with Schrader Pressure Equalizers and save tire money. Easily attached. Low in cost. Ask your regular source of supply for prices and information as to the correct model for your requirements. Or, write direct to A. Schrader's Son, Inc., Brooklyn, Toronto—*Makers of Pneumatic Valves since* 1844.

TIRE VALVES **Schrader** TIRE GAUGES

Reg. U. S. Pat. Off.

PRESSURE EQUALIZER

For Dual Tires

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday, Monday and Holidays, and Tuesday, When a Holiday Falls on Monday
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION
350 Hudson St., New York, N. Y.
O. J. Elder, President, H. A. Tarantous, Vice-President, Alexander Johnston, Secretary.
Entered as second-class matter, August 27, 1925, at the post office at New York, N. Y., under the Act of March 3, 1879.
350 Hudson St., New York, N. Y. Telephone CA nal 6-1000

MEMBER A. B. C.

Mail subscriptions to CIRCULATION DEPARTMENT, 1926 Broadway.
Telephone TR afalgar 7-4500

Subscription Rates: One year, $12.00; two years, $20.00, for United States and Canada, also Mexico, Cuba and Panama.
To Other Countries: One year, $15.00; two years, $26.00. Single copies, 5 cents.

SATURDAY, MAY 13, 1933

ADVERTISING AND BUSINESS HEADQUARTERS

Harry A. Tarantous, Business Manager. 350 Hudson St., New York, N. Y.
B. B. Crighton, Assistant to Business Manager.
George M. Slocum, Manager, Detroit Bureau, 427 Fisher Building, Detroit, Mich.; phone Trinity 2-3500. Willard R. Cotton, Western Manager 333 North Michigan Ave., Chicago, Ill.; phone Andover 2400. Metz B. Hayes, New England Manager, Little Building, Boston, Mass. Blanchard, Nichols & Coleman, American National Bank Building, San Francisco, Cal.; Lincoln Building, Los Angeles, Cal.; 1037 Henry Building, Seattle, Wash.
Address ALL advertising and business correspondence to 350 Hudson St., New York city.

EDITORIAL DEPARTMENT

350 Hudson St., New York, N. Y. Telephone CA nal 6-1000
Alexander Johnston, Editor. William C. Callahan, News Editor
Statistical Department (registration and specifications), F. J. Robas, statistician. **Engineering Department**, Herbert Chase, engineering editor. **Merchandising Department**, Charles S. Zack, editor. **Art Department**, John Bauerfeld, director.
Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, Detroit, Mich. Telephone Trinity 2-3500. Contributing editor, John C. Wetmore.

The Automotive Industry Will Lead

(Continued from Page 1)

a rear-guard action against the victorious hosts of depression and has prevented an actual collapse of our entire financial structure." But even the automotive industry could not achieve the impossible. During the three and a half years that have passed it could not, unaided, turn the tide. The general condition of business was practically in a state of collapse; no one industry could revive it.

Now conditions have changed. There is no actual boom in evidence, but many factors indicate improvement in fundamentals. For three years the anxiety and fear of the country has been such that even people who still had money would not spend it in anything like their normal ratio of expenditures to income. Somewhere between six and twelve million people, normally gainfully employed, have been without income. Such conditions created a market in which nothing could be sold, regardless of its merits or the energy of the people distributing it. But now, the Federal government having taken steps to restore some measure of the confidence of the people, the country is giving evidence of willingness to buy, in normal proportion to its income.

Given this improvement in the fundamental attitude of the people of the country toward buying what they need, the automotive industry can and will lead the way out of the economic morass. Burdened with taxes as no other industry is, the automotive industry can stagger ahead to revival. It can drag other industries with it, because no other business contributes so largely and so directly to the prosperity of other manufacturing businesses as does our own.

Money spent today for a motor vehicle contributes, first of all, to the prosperity of the local community. Then it goes back to the factory and helps create more employment. It works its way back into the plants of parts and materials suppliers. It reaches into such diverse industries as steel (where today it is lifting the production rate higher than it has been in years), copper, cotton goods, textiles of other varieties, glass, lead, leather, wood, paint and a dozen other fields of industrial activity. It goes further still, into railways, steamship lines, iron mines, coal mines, oil fields. There isn't a nook or corner of this vast country into which the automotive dollar does not penetrate in some way or other, contributing in profits and wages to communities scattered over the land.

Yes, the automotive industry can lead the way out of this depression. Wherever local conditions have operated to make a section reasonably prosperous, motor vehicle buying has at once quickened. This revival will spread from section to section as conditions improve.

If today two basic factors—agriculture and the automotive industry—were on a fairly even keel, there would not be the slightest doubt that depression had been routed. Already the automotive industry is on the move to higher levels. It needs only a definite increase in prices of agricultural products to put that industry back on its feet, and then the automotive industry will lead the country back to the heights of prosperity.

EVERYTHING in human life is comparative. As we write these words the steel industry is working at 31 per cent. capacity and is delighted. If steel operations in 1929 had suddenly some mystic morning been placed on a basis of 31 per cent. capacity, there would have been an instantaneous panic. It all depends on what comparison your 31 per cent. evokes. In 1929 it would have compared with pretty nearly 100 per cent. capacity, and the industry would have been panic-stricken. In 1933 it compares with a recent 11 per cent., and the industry is overjoyed.

If the automobile industry this year can lift its production to build, say, 1,750,000 vehicles, it will be delighted. If our industry in 1930, the first year of the depression, had only been able to produce 1,750,000 vehicles, it would have plunged into an abysmal panic, because that number would have compared with 5,600,000 units turned out in 1929.

If we are able to manufacture 1,750,000 vehicles this year, that will be a gain of nearly 17 per cent. over the output of 1932, and the industry would have a right to be jubilant, because today it is geared to make money on that total business. In 1930 it could not have come within city blocks of a profit on such a volume. Oh, yes, all things are comparative.

In This Corner . . . .

Opinions, suggestions, complaints, criticisms, grievances or what have you. Open to every one to say anything, anyhow, any time. The communications printed in this department represent the ideas and opinions of our readers. They are not necessarily ours. If you have something to say on any phase of automotive activity, wholesale, retail or abusive, let us hear from you and we will tell the world.

REEVES REPLIES TO MILAN ON ASSOCIATION AID; SAYS N. A. C. C. DUTY IS NATIONAL

Automotive Daily News: Having noted the letter published in today's (May 3) issue of Automotive Dailiy News from Louis Milan, managing director Wisconsin Automotive Trade Association, we hasten to assure Mr. Milan that our article in your April 15 edition regarding the legislative situation was intended to summarize the results of organized state effort.

He should know, as we appreciate, that little can be accomplished in any state without the effective campaigning of the state organizations whether dealer, user or manufacturer.

Alfred Reeves

Certainly little could have been accomplished in Wisconsin in favor of good legislation without the aid of Wisconsin dealers and the others associated with them.

Our reference to the action of "organizations identified directly with highway users" referred, of course, to dealer organizations and similar groups such as truck associations, farming and other interests which have become alert to restrictive and unfair taxation measures.

The National Chamber appears directly only in national affairs, such as those dealing with Federal tax and regulatory proposals, but is never active directly in state matters.

This policy is well known throughout the trade, and I am sorry that it was not known to Mr. Milan.

Mr. Milan complains that the Chamber declined to send money into his state for use in connection with legislative problems. He is entirely right in saying that the Chamber has never done this. Such action might naturally be considered highly unethical by law makers who might properly take the attitude that the people who have a right to be heard are the citizens of their state and not the representatives of an association of national scope.

Mr. Milan is also right in speaking of the highly helpful work of his association in dealing with Wisconsin representatives on Washington matters, although his talk of "highly paid lobbyists in Washington" brings something of a smile because I do not think that any one has ever been able to find any National Automobile Chamber of Commerce lobbyists there or elsewhere.

When we have important matters at Washington the presidents of our companies attend hearings, present their views and give their statements to the newspapers. We do not even have a lawyer to represent us on such matters.

Only last week Alfred P. Sloan, Jr., appeared before the Labor Committee of Congress on behalf of the industry in connection with the thirty-hour labor bill.

Our tax presentations have been made by George M. Graham. Appearing with him at the last such hearing were a dozen presidents of our motor companies who spent two days in Washington conferring on this important matter.

Our delegation at that time included Alvan Macauley, Alfred P. Sloan, Jr., Walter P. Chrysler, A. R. Erskine, Roy D. Chapin, Edsel Ford, E. L. Cord, C. W. Nash, Robert C. Graham and others.

At the time we sent out the story which inspired Mr. Milan's letter, the Legislatures of twenty-four states were still in session. The purpose of this story was to inform the public and particularly members of Legislatures still in session that measures inimical to highway users had found little support in the Legislatures which had adjourned. By calling attention to the reduction of motor taxes in some states we hoped that members of Legislatures still in session would consider similar action more favorably.

Finally, Mr. Milan makes our entire case when he says "home pressure and contact is needed." This cites our policy exactly.

We feel that nothing could be more harmful to the interests of the highway users of any one state than to have a national organization pouring money into it to influence its legislative representatives.

Residents of each state and those whose business interests in the state would be affected directly by legislative propcsals must present their own cases. All this is very generally understood.

The National Chamber has always been willing to supply facts and information on any legislative problems for the use of any one, including legislators.

While Mr. Milan makes some reference to this in his letter, he seems to expect that we should supplement this assistance by injecting national funds into local legislation. I am sorry we cannot accommodate him in that way.

ALFRED REEVES, Vice-Pres., The National Automobile Chamber of Commerce, New York City.

COMING EVENTS

MAY

20—**Newark, N. J.** Annual convention New Jersey Automotive Trade Association, Newark Athletic Club.

JUNE

8—**New York.** Annual meeting of National Automobile Chamber of Commerce.

12-15—**Boston, Mass.** National Association of Purchasing Agents, eighteenth annual International Convention and Informashow, Hotel Statler.

12-16—**Chicago.** American Oil Burner Association meeting, Stevens Hotel.

16-17—**Louisville, Ky.** American Automobile Association meeting.

18-July 3—**Bordeaux, France.** Automobile, nautical and aeronautical show.

26-30—**Chicago.** American Society of Mechanical Engineers, meeting.

26-30—**Chicago.** American Society for Testing Materials, meeting, Stevens Hotel.

JULY

1- 4—**Chicago.** American Air Races, Municipal Airport.

10-14—**Chicago.** Automotive Engine Rebuilders Association, meeting.

16-18—**Chicago.** National Team and Motor Truck Owners' Association, thirty-first annual convention, Palmer House.

AUGUST

28-Sept. 21—**Chicago.** Chicago Society of Automotive Engineers, International Automotive Engineering Congress, Palmer House. (This meeting will be wide in scope to take in the activities previously covered in the summer meeting and the aeronautical meeting.)

SEPTEMBER

11-15—**Chicago.** American Chemical Society, meeting.

20-22—**Atlantic City, N. J.** National Petroleum Association, Traymore Hotel.

21-22—**Chicago.** National Association of Motor Bus Operators, Congress Hotel.

OCTOBER

..... **Paris, France.** Twenty-seventh International Automobile Exhibit.

2- 6—**Detroit, Mich.** National Metal Congress.

2- 6—**Chicago.** National Safety Congress.

TRUCK REGULATIONS ON CARIBOO HIGHWAY

Vancouver, B. C., May 12.—Specifications regarding trucks and motor vehicles using the Cariboo Highway in British Columbia, together with details of the tolls for this season, are now announced by the provincial government. The tolls are collected at Spuzzum and are in effect, with little change from last year. Some vehicles in the heavier classes will pay a little more.

Regulations covering the traffic are varied, providing the maximum truck length of twenty-four feet in place of twenty-two feet, a width of 7.6 feet, as before, and a load limit of 14,000 pounds in summer, in place of 16,000 pounds, and 10,000 pounds in winter, as before. Vehicles also may not take over twelve passengers without a special permit issued under the direction of the minister of public works.

DeWITT OPERATED HOTELS

DeWITT OPERATED HOTELS ARE LOCATED IN THE HEART OF THEIR RESPECTIVE CITIES

In Cleveland it's
The HOLLENDEN
1050 ROOMS ALL WITH BATH
RADIO IN EVERY ROOM

In Chicago it's
The LA SALLE
1000 ROOMS, ALL WITH BATH
"IN THE HEART OF THE LOOP"

In Columbus it's
The NEIL HOUSE
650 ROOMS, ALL WITH BATH
RADIO IN EVERY ROOM

In Akron it's
The MAYFLOWER
450 ROOMS, ALL WITH BATH
RADIO IN EVERY ROOM

feature: UNUSUALLY COMFORTABLE ROOMS. THE FINEST OF FOODS AND RATES STARTING AT $2.50 SINGLE, $3.50 DOUBLE

Retail Salesmen — This Is Your Page

This department is devoted to the interests of the retail sales division of the industry. Salesmen, this is your department. Automotive Daily News wants you to get something from this department that will help you in your work on the firing line. It wants you to pass on your own experiences, success, failures to help your brother salesmen. Send in your story in the form of a letter, or even a postal card, and let us get it ready for publication. Your achievement or your mistake may help another salesman to make sales or avoid errors that cost you commissions.

Dealers read this page. Give us the benefit of your reactions on these problems that affect the work of your salesmen, the men on the firing line, the men who bring home the bacon or don't.

SHOWMANSHIP FOUND BIG AID TO SALESMANSHIP IN SEATTLE

By D. M. TREPP

Showmanship was tied up with salesmanship over a period of forty weeks by Empire Motors of Seattle, Wash., with results that were eminently satisfactory.

One night every week during that period twenty-two radio artists from station KOL, Seattle, went to the establishment of Empire Motors and broadcast in person from that place, in full view of an average of 3,000 persons for each performance. The broadcast was for one hour.

Attractive advertising was created thereby, the idea being an innovation for the Northwest. That it built up a lot of good will and also directly made some new car sales—in fact, helped the concern in many deals—is the statement of A. H. McConnell, general manager.

The first week the broadcast was from the showrooms, where 3,700 were seated, and about 2,000 additional stood on the sidewalks without the building and looked in through the 100 feet of large display windows.

For this show the cars had to be removed to the service floors at the rear, and portable chairs were placed on the showroom floor. However, it was found that many of the audience went directly out the front door without seeing the cars. Then a change was made, the entertainment being removed to the service and shop floors, where 2,000 could be seated and 1,000 more were accommodated with standing room. A movable stage was erected, 20 by 20 feet in size, whereon the artists cavorted. Chairs were borrowed at no expense. The stage was nattily draped and placed in the large doorway between the two departments, in plain view of the spectators.

"We printed free passes and announced over the radio once a week that any one could call at our place and receive the tickets," said Mr. McConnell. "They came in droves. Thus we were contacting the majority of the folks twice during the week, once when they got the tickets and again when they saw the show.

"We are satisfied with the good will this built up for our firm, which came to Seattle two years ago and was unknown, so it required attention-getting advertising. We can trace many sales to this broadcast, and made some sales the same eveninngs of the show. We credit the radio entertainment with helping us place Dodge and Plymouth new car sales well up in the standings in King county."

Empire Motors has been using showmanship in other ways.

In Seattle hockey is a great sport. Auto Row has a team in the City League. Sunday night shows attract around 6,000 fans. Regular admission is 25 cents, but some of the dealers give out tickets, which will admit upon payment of a 10-cent service charge. On the back of the tickets is the advertisement of the dealer, who printed the tickets. These are handed out for the dealer by jobbers and other automotive units, as well as at the dealership. Empire Motors has given away many thousands of such tickets. More good will in this, and all to help the firm in retail selling.

"We have had 410,000 persons call for such tickets and for the tickets for our own radio show," stated Mr. McConnell. "We have given away 1,200,000 tickets."

The cost of the tickets was 70 cents per thousand, and thus the ticket cost over the forty-week period has been but $840. Considering the wide advertising obtained, the many personal contacts, the great number of calls at its place of business, and the deals that were made as a result, Mr. McConnell considers the cost of the printing as having been very small.

Empire Motors is discontinuing its present lines, but during a month's clean-up sales on used cars, plans will doubtless mature for a new program, so as to continue to take advantage of the good will this advertising has built.

MICHIGAN NEW CAR SALES ON INCREASE IN PAST SIX WEEKS

Lansing, Mich., May 12.—Sale of automobiles in Michigan has increased steadily each week for the last six weeks, records of the department of state show. More new and unused cars changed hands last week than during any week since June 1, 1932. Registrations of new cars alone were more than 250 a day.

In the week ending July 2, 1932, 3,505 motor cars were sold. The following week sales dropped to 1,316 and continued to decrease from then until November 12, when only 317 new cars were registered. After November there was a steady increase until February 11, 1933, when the Michigan bank holiday was declared.

Since the setback in February, the new car sales have again begun to increase, gaining steadily. In the week ending April 22 total sales recorded were 11,413. For the first four days of last week 1,302 new motor cars were registered, assuring another increase.

INDIANAPOLIS A. M. A. ELECTS 1933 OFFICERS

Indianapolis, Ind., May 12.— William A. Anderson of the Anderson Spring Service, was elected president of the Indianapolis Automotive Maintenance Association at the annual meeting of the board of directors here.

Other officers included Joe B. Wiles, Wiles & Wilson Motor Service, first vice-president; Y. D. McCoy, McCoy Auto Service, second vice-president, and E. R. Sluggett, Motive Parts Company of America, secretary-treasurer.

New directors elected included William Spangler, William Spangler's Garage; Jimmie Applegate, Applegate's Garage; D. D. Miller, D. D. Miller Auto Service; Fred Denner-line, manager Indiana Wheel and Rim Company; C. W. Yount, Eagle Machine Company, and Albert Off, C. Off & Co.

Holdover directors were Knox Esterline, Equipment Service Company; August Linne, August Linne Garage; E. J. Rheinhardt, E. J. Reinhardt Garage; Earl W. Showalter, Earl W. Showalter & Co., and Charles Campbell of the Madden-Copple Company. Mr. Campbell is the retiring president.

Edwin E. Jones, C. P. A., will continue as executive secretary of the association, and V. M. Armstrong as legal counsel.

MORAN GOES TO MEXICO FOR FOUR-WHEEL DRIVE

Clintonville, Wis., May 12.—G. G. Moran, who, for the past three years has been in charge of sales promotion in the South and Central American terirtories for the FWD Export Department, left recently for Mexico, where he will act as a special representative of the Four-Wheel Drive Auto Company during the next several months.

While at the factory, in addition to his regular sales promotional work, Mr. Moran has edited the Spanish edition of the company house organ, the Saturday News Letter. This publication has been well reecived in the Spanish-speaking nations and will, no doubt, serve as a good introduction for its editor.

Mr. Moran is a native of Mexico and a has a wide personal knowledge of the automotive requirements in that country, having acted as a passenger car representative there for a number of years.

EVERY EMPLOYEE A SALESMAN

Many companies today are making all their employees, regardless of the departments they may be in, members of the sales organization. In some lines of business this is more easily arranged than in others, but in the automobile dealer field there is a definite chance to draw every one connected with the business into sales work.

For instance, every one in a dealer organization ought to sell service, whenever the opportunity comes. New car salesmen, used car salesmen, office workers, executives and all other employees will find many chances to promote the service department of the company.

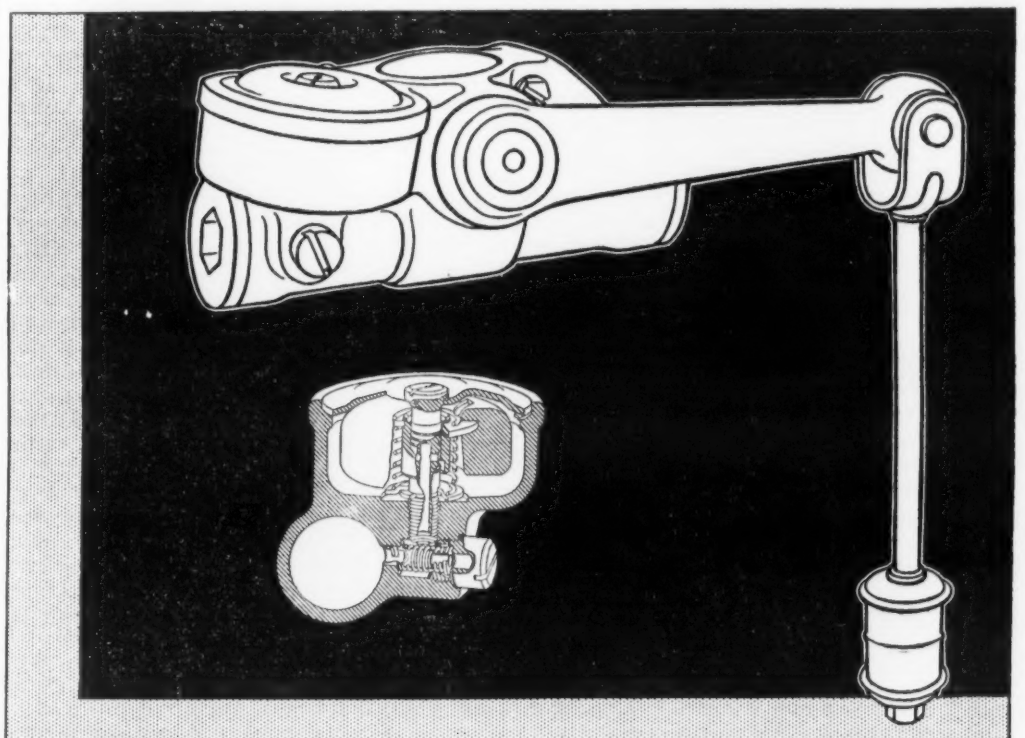
Obviously enough there must be rewards for such extra-official duties. The office worker who makes a sale should get a commission. The shop man who sells a car should be rewarded for his effort.

In a recent publication by the Metropolitan Life Insurance Company there is outlined the plan of operations adopted by a company distributing electric ranges, water heaters and ice boxes. The plan was presented to all employees at a mass meeting. Here is the plan that was followed:

1. As explained on the printed prospect form, the employees must personally solicit their prospects and make certain that no member of the sales department has done the same.

2. The first and second copies should be forwarded direct to Mr. ———, sales department, who will file the original and give the dupli-

(Continued on Page 6)



What is INERTIA CONTROL?

When car springs are flexed under normal or violent road irregularities, shock absorber action is in force, softening the body rebound; but when the road is smooth, shock absorber action is disengaged, allowing the springs to "ripple," and resulting in a soft, buoyant ride. This feature is known as *Inertia Control*—a Delco-Lovejoy patent, available on all single-acting or duo-draulic shock absorbers, with or without Ride Regulating Control. *Inertia Control,* then, is a development—exclusive to Delco-Lovejoy Hydraulics—which automatically releases the shock absorbers when they are not needed to control rebound. The advantages of *Inertia Control* will gladly be explained and demonstrated by Delco-Lovejoy engineers.

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

★ DELCO-LOVEJOY ★

HYDRAULIC SHOCK ABSORBERS

EVERY EMPLOYEE A SALESMAN

(Continued from Page 5)

cate to the salesman in whose district the prospect lives.

3. When the sale is completed, form will be completed, approved by the sales manager and forwarded to the accounting department. Bonus checks will be made up semi-monthly and distributed with the regular pay checks.

4. Commissions will be paid as follows: Ranges, $5; water heaters, $5, and Kelvinators, $3. It will be appreciated, however, if small appliances will be noted on the form after the heading "Other Appliances," even though no commission will be paid.

5. If, upon receipt of the prospect card in the sales department, it is found that a salesman has been actively working on the prospect, the card will be returned to the employee at once with the proper explanation.

6. If the prospect is not sold within a period of thirty days, an explanation of the results of salesman's call will be given on the form which is returned to the employee. If, after talking with this prospect again, the employee still feels that the party is a good prospect, he may make out another form and forward it to the sales manager.

You have the assurance that all records will be accurately kept, that a systematic effort will be made to sell your prospects and that you will be promptly informed as to the results obtained.

Obviously such a plan would have to be adapted for use in an automobile dealership, but the idea of getting every employee into selling is certainly an admirable one and worth the careful consideration of automobile dealers.

FORD DEPOSITIONS SHOW $8,000,000 PAID OUT OF SYMPATHY

Philadelphia, May 12.—Depositions by Henry Ford and his son, Edsel, filed in the prothonotary's office here, in the suit of the Sweeten Automobile Company, this city, former Lincoln dealers, now in receivership, purport to show that the elder Ford paid $8,000,000 for the Lincoln Motor Car Company, "purely out of sympathy" for Henry M. Leland, founder of the firm, and Ford's old friend.

The depositions were taken in Detroit last week. The Sweeten Automobile Company claims $227,000 from the Ford Motor Company. Judge H. S. McDevitt, this city, last November appointed a commissioner to take testimony in Detroit on cross-examination of the Fords. Former District Attorney C. E. Fox, Philadelphia, is receiver for the Sweeten firm, which the Ford company took over when it bought the Lincoln corporation at receiver's sale. It is asserted that Ford took over the agency here, but that after the Sweeten company had spent $227,000, the agency was awarded to another concern.

Both the Fords denied that in acquiring the Lincoln rights they did so under an understanding with Henry M. Leland and his son, Wilfred C. Leland, Sr., that all creditors and stockholders of the Lincoln concern were to be paid off. Their testimony was given before Bertrand G. Connolly, commissioner, and the elder Ford sought to show he did not know a great deal about details of the Lincoln company purchase, which was handled by Edsel Ford, president of the Ford Motor Company.

Among the numerous questions asked Henry Ford for his depositions was whether the Lincoln company purchase was an investment. His reply was:

"Not as an investment, no. As a matter of sympathy, I guess."

Then Ford added that the sympathy was "purely and simply for the Lelands." He said he had known the elder Leland since 1900 and that Mrs. Ford also expressed her sympathy for their financial plight. Ford denied that he said to Henry M. Leland at a birthday luncheon on February 16, 1922, "You tell the ladies and the other parties that the creditors and stockholders are going to be paid."

Edsel Ford said: "We bought the proprety at an open-and-shut sale, with no stipulations and clear of all promises to pay stockholders and creditors."

GEORGE B. ALLISON DIES

Montreal, May 12.—Prominent in Canada as a financier, interested particularly in the automobile industry, George Barber Allison, 53, died recently following an illness of a few months' duration. He was president of the Packard Montreal Motor Company, Ltd., as well as of Just Motors, Ltd.

Cumulative New Commercial Car Registration Statistics, First Quarter 1933

Months	Austin	Autocar	Brockway	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	Indiana	International	La France-Republic	Mack	Pierce-Arrow	Reo	Rockne	Sterling	Stewart	Studebaker	White	Willys-Overland	Miscellaneous	Totals	Months
January	64	47	39	4884	205	360	52	3734	344	80	983	8	79	8	137	**	12	29	135	207	25	281	11713	January
February	67	41	42	4645	174	346	60	2185	271	64	1126	2	62	5	151	26	8	32	151	116	22	111	9707	February
March	68	45	51	4743	202	487	54	2034	318	77	1200	2	55	3	132	34	5	32	101	97	24	165	9929	March
1st Quar. Totals	199	133	132	14272	581	1193	166	7953	933	221	3309	12	196	16	420	60	25	93	387	420	71	557	31349	1st Quar. Totals

**Included in the miscellaneous.

Final Revision, Complete New Com'l Car Registration Statistics, March, 1933

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Metropolitan district figures compiled by Sherlock & Arnold, New York city, are included in New York state total. Readers desiring county, city, or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies. Some of this data has been published previously, but it is given here complete for the convenience of our subscribers.

Returns for today: Oklahoma

In this table, 48 states and the District of Columbia

Comparative figures for March, 1932, will be found on Page 8

States	Austin	Autocar	Brockway	Chevrolet	Dia-mond-T	Dodge	Federal	Ford	G. M. C.	Indiana	Inter-national	La France Republic	Mack	Pierce-Arrow	Reo	Rockne	Sterling	Stewart	Studebaker	White	Willys-Overland	Miscel-laneous	Totals	States
Alabama	2			112		2		23	3		6								1				149	Alabama
Arizona				24		1		11			1												37	Arizona
Arkansas	1			86		3		30			11				1				2			1	135	Arkansas
California	4	9		226		23	1	119	16	4	24				6	3		1	8	8		11	463	California
Colorado				48	2	2	2	19	11		6		3						1		2	3	99	Colorado
Connecticut				61	1	12	2	40	4	1	17			1	8	3			3				153	Connecticut
Delaware				31				10	1		5												47	Delaware
Florida	25			81		4		49	6	3	27				3				2			1	201	Florida
Georgia	3			69		2	4	5	9	1	15		1						1	1		2	113	Georgia
Idaho				12		1		1		1	3												18	Idaho
Illinois		1		198	49	37	7	107	24	1	105		3		9		1	1	5	16	1	34	599	Illinois
Indiana				195	5	13	3	73	12	20	59		1		4	6		1	7		1	4	404	Indiana
Iowa				114	7	5	2	32	5	1	48					2			1			1	218	Iowa
Kansas				63		3		25	1		11				2						1		106	Kansas
Kentucky				56	5	10		37	2		29				2	1			6			2	150	Kentucky
Louisiana				27		2		12	2		11								1				55	Louisiana
Maine				42		3		24	1		8			1	3			1	1	6		1	91	Maine
Maryland		1	7	73		9	1	31	5	2	21		1		2	1			2	4	1	2	163	Maryland
Massachusetts		5	5	142	9	20	3	85	27		26	1	3		10	1			4	4	1	4	350	Massachusetts
Michigan				132	1	42	5	60	10	2	41		1		15	1			4	2		3	319	Michigan
Minnesota			1	147	14	7	1	44	6		35				3				1			5	264	Minnesota
Mississippi	2			46		1		12	2		15								1				79	Mississippi
Missouri		3		355	14	37	3	128	17	3	89				3		2		9	4	2	10	679	Missouri
Montana				43		5	1	34	2		21		1										107	Montana
Nebraska				82	6	6		29	2	1	22		1		1						2		152	Nebraska
Nevada				2				1	1		3											1	8	Nevada
New Hampshire				38	3	2		16	4		8		1			1							73	New Hampshire
New Jersey	1	1	7	149	4	14	1	81	10	8	44		1		4			1	1	18	1	8	354	New Jersey
New Mexico				19				8			1								1	1			30	New Mexico
New York	1	9	25	312	35	63	4	181	30	15	89		22	1	15	5	2	18	7	9	1	9	853	New York
North Carolina	7			112	2	4		44	5		20		1						2	1		1	199	North Carolina
North Dakota				8	1	2		2			3												16	North Dakota
Ohio	1	1		157	4	24		75	14	2	55		2		8				2	10	2	11	368	Ohio
Oklahoma				107		10	1	25	5	1	18				3				1		1		172	Oklahoma
Oregon				36		6		11	6		9				1							2	71	Oregon
Pennsylvania	9	9	6	392	17	58	2	196	25	3	124		8		18	8		6	14	8	6	10	919	Pennsylvania
Rhode Island				14		7	1	21	3	2	6				2	1						5	62	Rhode Island
S. Carolina	2			82		5	1	35	1	1	3												130	South Carolina
S. Dakota				21	1	4		4			6								3				39	South Dakota
Tennessee	2			54		2	5	12			9							1	1				86	Tennessee
Texas	2			336	2	12		97	11	1	58		2			1			3	2		15	542	Texas
Utah				30		3		11	2		2									1		1	50	Utah
Vermont				14	3	1		9		3	4									1		3	38	Vermont
Virginia	4			156	4	6	2	58	8		17		1		2			1	1			2	262	Virgina
Washington	1			40	1	2	1	28	8		15				2					1		1	100	Washington
W. Virginia				61	1	5		18	3		10		1						2			4	105	West Virginia
Wisconsin				86	11	5		39	4		35	1			4			1	2		2	1	191	Wisconsin
Wyoming				24				7		1	3				1				1				37	Wyoming
Dist. of Col.	1	6		28		2	1	15	10		2		1									7	73	Dist. of Col.
Totals	68	45	51	4743	202	487	54	2034	318	77	1200	2	55	3	132	34	5	32	101	97	24	165	9929	Totals

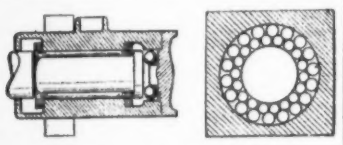
Nothing New Under the Sun Nor in the Patent Office

(Continued from Page 3)

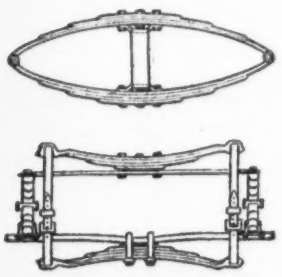
the remaining brake by fluid pressure."

Road springs appear to have received a large share of attention, for, in addition to the one referred to previously, in March, 1868, there is a patent by W. Clark for keeping spring leaves lubricated by forming a longitudinal corrugation to allow lubricant to pass between them. For overcoming the difficulty of keeping the leaves in alignment without clips an idea was put forward by J. Mitchell in May, 1868. This consisted of forming a central depression across the spring leaves with a bolt across the top leaf in the center of the spring. This bolt was held by a box clip embracing the center portion of the spring, and the idea appears worth investigation for modern requirements.

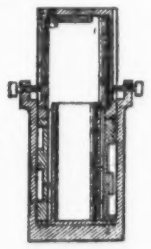
Passing from the spring to the shackle we find a surprisingly well-designed form of rubber-lined shackle in that patented by E. B. Taylor in January, 1877. This consisted of two double cup links, the cups being rubber lined and slipping over the ends of the pins passing through the spring eye and frame bracket respectively. These links, being held together by a central cross bolt only, were cheap to make,



An axle revolving on hardened steel rollers in a lantern cage, with ball bearings to take end thrust (1872)



Two sets of springs arranged to provide a shock-absorbing device (Shea and Roberts, 1869).



A two-cylinder pneumatic spring, evolved in 1870.

An idea of 1868 for keeping spring leaves in alignment.

rapidly assembled or disassembled, easily taken up for wear, and must have been highly efficient in durability and silence. They were, moreover, neat in appearance and dust and water-tight.

After this one feels no surprise in discovering a shock-absorbing device formed by two sets of springs arranged with one set in tension and the other in compression at the same time, and vice versa. This was the product of two brains, C. Shea and H. Roberts, in August, 1869. We pass from this to a genuine pneumatic spring formed by two cylinders working one inside the other and made air-tight by a rubber cylinder inside them. An automatic inlet valve at the top appears to indicate practical experience with this design, which emanated from P. S. Devlan, I. P. Wendell and S. P. M. Tasker in December, 1870. Tasker, I recollect, was a traction engine builder at Andover, in Hampshire.

Transmission of power appears to have received a share of attention even in those early days, as J. Brooks claimed priority in the use of a worm and worm wheel as driving gear from steam or other power in October, 1867; but it was not until 1881 that a provisional patent was granted to W. H. Howorth for a pump arranged to draw water from a reservoir on the vehicle, delivering it to a turbine which drove the wheels; to have thought of this over fifty years ago indicates a brain in advance of its time.

Before leaving the sphere of devices for controlling power, I must ask you to direct your attention to the patent granted to E. Privost in October, 1868, for passing an electric current through the harness from the head to the tail of a restive or runaway horse "in order to bring it under control," the current being supplied by a magneto-electric machine under the coachman's seat. Little can the inventor have imagined that his magneto-electric machine, instead of controlling his surplus h. p., was destined to stimulate our horseless vehicles to speeds about twenty times that of his runaway steed!

Judging by the number of patents, and the elaborate nature of some of them, for ventilating carriages, the interior of the average vehicle in those days must have been somewhat stuffy. One of the first was granted to G. N. Hooper, the coach-builder, for a roof ventilator with flaps operated by a central cord. This was so long ago as July, 1867. There followed many others, some of which seem distinctly modern in conception and design.

NEW RETAIL SALES TAX IN N. Y. TO HIT 35,000 MERCHANTS

New York, May 12.—Approximately 35,000 merchandisers at retail will come under the operation of the new retail sales tax in the district which embraces Manhattan and Staten Island and Westchester, Rockland and Putnam counties, it is estimated by Wesley M. Dawson, district director of the state sales tax bureau for that territory, with offices at 80 Centre Street, New York city.

While the great preponderance of these are in Manhattan, it is estimated that many thousands of returns will be received quarterly from merchants in Westchester, Rockland and Putnam counties.

"The State Tax Department is making a special effort to reach the small merchant with information on the new sales tax law, which went into effect May 1," Mr. Dawson declared in a statement addressed to districts outside Manhattan.

"If the merchant who customarily sells at retail will bear in mind a few fundamental facts about the so-called retail sales tax law he will not find it difficult to comply with this law, nor will the bookkeeping entailed be burdensome. These ten points should be borne in mind:

"1. The tax applies to retail sales of tangible personal property only. Intangible personal property and real property are not taxable under this law.

"2. The tax applies to such sales of tangible personal property in which the title to the property passes between May 1, 1933, and June 30, 1934.

"3. Returns must be filed and tax paid for quarter year periods, except that the first period will be for the months of May and June, 1933, only. Such returns may be filed and paid at any time within the month following the termination of each taxable period.

"4. By retail sale is meant the last sale of the goods or articles involved, that is, any sale to a consumer or to any person for any purpose other than for resale in the form of tangible personal property.

"5. Any sale of tangible personal property not exempt under the law will be considered and taxed as a retail sale unless the seller can show a statement from the purchaser that the goods were bought for resale.

"6. The principal exemptions in the law are on retail sales of motor fuels now taxed and on food for human consumption. Sales on spirituous and malt liquors, candy and confectionery, soft drinks and soda fountain beverages other than coffee, tea and cocoa, are taxable.

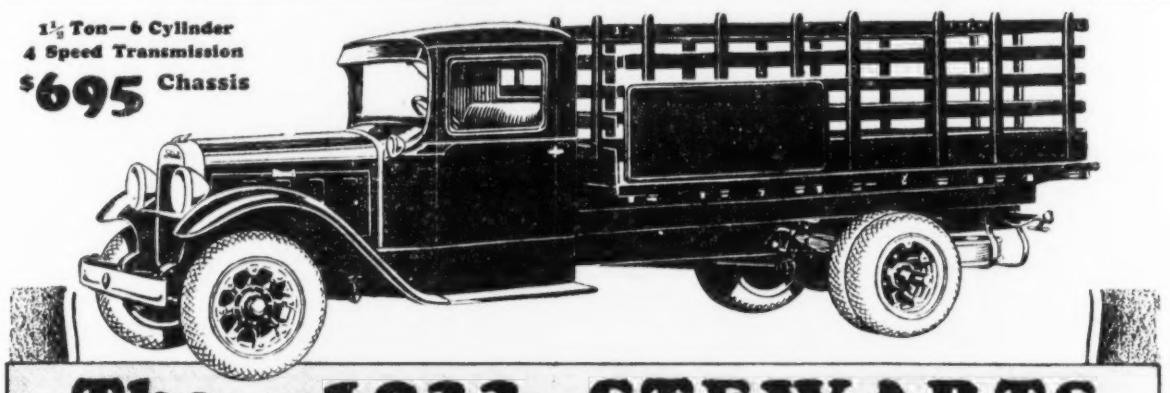
"7. No documentary license to do business is required.

"8. Any system of bookkeeping that clearly reflects the amount of taxes due the state of New York will be satisfactory to the Tax Department. Merchants selling both taxable and exempt goods should keep separate records for these classifications.

"9. Sales entering into interstate commerce are exempt from the tax. In such sales the title must pass outside of the state of New York. Sales in New York in which the

(Continued on Page 12)

1½ Ton—6 Cylinder
4 Speed Transmission
$695 Chassis



The 1933 STEWARTS
embody improvements that place them far ahead of the field

The 1933 Stewarts embody a host of improvements that mark them more than ever the "World's Greatest Truck Value". In the Stewart line are models with five speed transmissions with quiet overdrive—larger drive shafts — nickel alloy cast brake drums — removable exhaust valve inserts — improved clutch operation — these are but a few of many features found on Stewart models at no increase in price.

Ability to stay on the road and out of the repair shop has long been associated with Stewart performance. Now comes quieter operation, easier steering, easier riding, greater economy, ruggedness, power and speed.

Before you buy any truck, see the 1933 Stewarts. They're honestly built, honestly rated, honestly priced, designed in a wide range of models and wheelbases to meet every trucking need.

MODELS
Bevel Axle

¾-ton 6 Cylinder	$ 670
1-ton 6 Cylinder	680
1½-ton 6 Cylinder	695
1¾-ton 6 Cylinder	795
2-ton 6 Cylinder	995
2-ton 6 Cylinder	1295
2½-ton 6 Cylinder	1695
3-ton 6 Cylinder	1990
3-ton 8 Cylinder	2190
3½-ton 8 Cylinder	2990

Worm Axle

*3½-ton 6 Cylinder	$2690
*3½-ton 6 Cylinder	3690
*3½-5 ton 6 Cylinder	3990
*3½-5 ton 8 Cylinder	3990
*5-6-ton 6 Cylinder	5190
*7-8-ton 6 Cylinder	6190

F.O.B. Buffalo, N. Y.
*Supplied either with worm or double reduction rear axle as optional equipment.

"Honest Trucks Honestly Rated Honestly Priced"

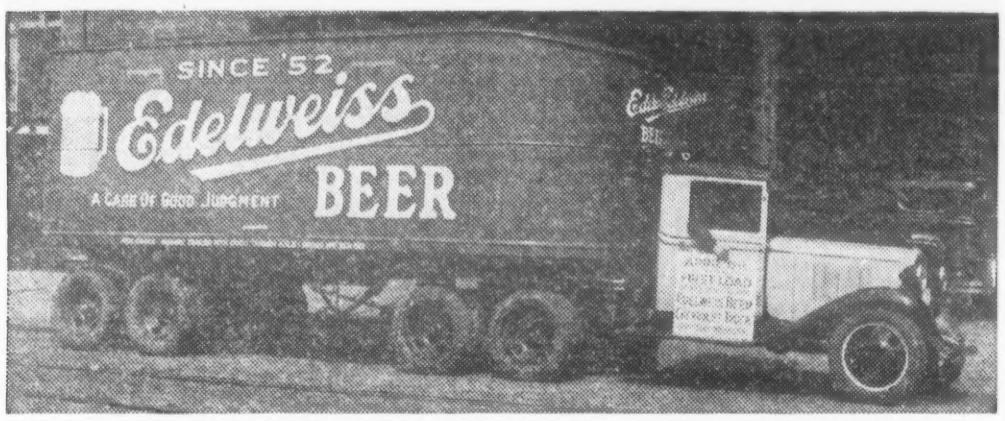
Stewart MOTOR TRUCKS

STEWART MOTOR CORPORATION
BUFFALO, N. Y.

3 Ton—8 Cylinder
5 Speed Transmission
with Quiet Overdrive

Stewart Trucks have won—By costing less to run

Chevrolet Tractor, Grico 4-Wheel Drive



The Grico four-wheel drive attachment for lighter truck units, which is built by The Gear Grinding Machine Company, Detroit, when used in connection with a trailer unit by the Highway Trailer Company provides a brewery vehicle with a capacity for 475 cases, as shown above.

The truck used in the combination shown is a 1933 Chevrolet with 140-inch wheelbase; 30 by 5 tires are used all around and the weight of the chassis, cab and Grico unit is 4,575 pounds. The trailer unit inside measures 20 feet 6 inches long, 7 feet 6 inches wide and 6 feet 6 inches high. It is equipped with Bendix four-wheel brakes with BK booster. It has side door on curb side and rear doors.

It has a capacity for 475 cases (24 pint bottles) weighing 53 pounds per case. Twenty-five extra cases may be carried on the top layer. The trailer is equipped also with Grico tandem spring suspension with eight 6.50 by 20 tires and has a net weight of 7,200 pounds.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

SCRAP AT YOUNGSTOWN SETS TWO-YEAR HIGH

Youngstown, May 12.—With the iron and steel scrap market more active than at any time since the World War, the price of heavy melting scrap today bounded up to $12.50 to $13 a ton, an increase of $1.25 since the first of May and more than $4 since late in February, according to the New York Daily Investment News.

Scrap prices now are at the highest level in two years.

Hydraulic compressed sheets are quoted at $12 to $12.50 a ton, up $1.50 a ton over the last previous prices, and new busheling is priced at $11.50 to $12 a ton, up $1.

There is an increasing shortage of prepared scrap available for the Youngstown district steel plants and the prospects of still heavier melting schedules point to still higher prices for old metal.

Steel plants are short of scrap and are reported to be seeking to build up inventories.

CAR SALES ARE BETTER IN MONTREAL SECTION

Montreal, May 12.—According to reports from Montreal automobile dealers, increased purchases of automobiles have been noted for some weeks in the city. These purchases, according to the dealers, are being extended to the smaller centers of population. This extension naturally betters somewhat the movement of parts and accessories for local distributors.

WISCONSIN LICENSE BILL VOTED BY ASSEMBLY

Madison, Wis., May 12.—By a two to one vote the Assembly has passed the McEachin bill providing for county issuance of automobile licenses. The question of county issuance of licenses was submitted to the voters on April 7, 1931, and was rejected 183,716 to 368,674.

The Wisconsin Automotive Trades Association adopted a resolution opposing the measure on the grounds that the present centralized method costs about $300,000 less than the proposed method, that the centralized system offers a better check on stolen automobiles and that automobile insurance rates would increase if the county system were adopted. The measure now goes to the Senate for action.

Cumulative New Commercial Car Registration Statistics, First Quarter 1932

Months	Austin	Autocar	Brockway	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	Indiana	Inter-national	La France-Republic	Mack	Pierce-Arrow	Reo	Rockne	Sterling	Stewart	Studebaker	White	Willys-Overland	Miscella-neous	Totals	Months
January	**	43	79	5317	177	757	71	5119	496	*	1314	40	100	11	354	†	38	53	160	122	128	388	14767	January
February	**	62	75	5581	171	621	97	4722	510	*	1271	23	110	17	292	†	25	86	190	147	115	407	14522	February
March	**	166	57	6541	185	816	94	4723	541	22	1584	28	142	3	344	†	36	105	218	566	138	450	16759	March
1st Quar. Totals	**	271	211	17439	533	2194	262	14564	1547	22	4169	91	352	31	990	†	99	244	568	835	381	1245	46048	1st Quar. Totals

*Combined with Brockway. **Included in the miscellaneous. †Not in production.

Final Revision, Complete New Com'l Car Registration Statistics, March, 1932

Comparative figures for March, 1933, will be found on Page 6.

States	Austin	Autocar	Brockway	Chevrolet	Dia-mond-T	Dodge	Federal	Ford	G. M. C.	Indiana	Inter-national	La France Republic	Mack	Pierce-Arrow	Reo	Rockne	Sterling	Stewart	Studebaker	White	Willys	Miscel-laneous	Totals	States
Alabama, 1932				89		8	1	32	5		15								3		1		154	Alabama, 1932
Arizona, 1932				30		3		13			5											1	52	Arizona, 1932
Arkansas, 1932				44		1		29	1		8		1										84	Arkansas, 1932
California, 1932		6		311	2	46	2	368	31		47	6	1		40		2		12	9		83	966	California, 1932
Colorado, 1932				50	1	4	1	72	2		15		1							2	2	4	154	Colorado, 1932
Connecticut, '32		3		100	3	14	6	49	9		26	1	4	1	12				4	3	3	2	240	Connecticut, '32
Delaware, 1932			1	24		1		17	3		8				2								56	Delaware, 1932
Florida, 1932				92		5	1	124	4	1	21	1	1		3				2	1	1	3	260	Florida, 1932
Georgia, 1932		1		78		3	1	72	4		6				2				1	1	1	3	173	Georgia, 1932
Idaho, 1932				26				10			5												41	Idaho, 1932
Illinois, 1932		1		308	24	39	1	177	35		118	1	3		19		1	1	14	2	9	27	780	Illinois, 1932
Indiana, 1932		1		191		16	1	177	27	5	60	4			5			4	20	1	9	3	524	Indiana, 1932
Iowa, 1932				194	4	10		121			53		3		7				8	2	6	12	420	Iowa, 1932
Kansas, 1932				97		8		75	10	1	19		1		1				1			6	219	Kansas, 1932
Kentucky, 1932				51		5		48	3	3	25		2		3			1	2		2	2	147	Kentucky, 1932
Louisiana, 1932				49	1	5		38	3		20		1		1				1	1			120	Louisiana, 1932
Maine, 1932				88		12		32	7		16				4		1		2				162	Maine, 1932
Maryland, 1932		3	3	125		19	6	42	7		27	1	6		5				3	2		7	256	Maryland, 1932
Mass., 1932		11	3	216	3	36	13	211	43		51		12		18		2	10	8	19	1	5	662	Mass., 1932
Michigan, 1932				208	6	60	10	180	18	1	29				18				17	1	6	16	570	Michigan, 1932
Minnesota, '32				228	7	40	5	152	11		81		6		14		1		12	7	6	1	571	Minnesota, '32
Mississippi, '32				62		4		48			16												130	Mississippi, '32
Missouri, 1932		3		616	22	50	7	376	37	7	150		5		24		8	1	17	4	10	15	1352	Missouri, 1932
Montana, 1932				61		11	2	81	2	1	29				9				1	1	2	1	201	Montana, 1932
Nebraska, 1932				87	3	6		67	7		30				2				3		5	2	212	Nebraska, 1932
Nevada, 1932				18		1	1	4	2		3											1	30	Nevada, 1932
New Hamp., '32				44	6	6	1	20	4		7	1	1		2			3	2		1	1	99	N. Hamp., 1932
New Jersay, '32		9	6	260	33	38	4	119	22		44	1	9	1	17		2	6	5	14	2	30	622	New Jersey, '32
N. Mexico, '32				15		1		17	2		3												38	N. Mexico, 1932
New York, 1932		105	33	506	30	100	12	387	74		138		45		36		5	52	23	447	16	60	2069	New York, 1932
N. Carolina, '32				171	2	8		87	4		11	1	1		2					9		25	321	N. Carolina, '32
N. Dakota, '32				25		4		7	1		18				2						2		59	N. Dakota, 1932
Ohio, 1932		1		225	2	48	2	195	28	1	50	1	4		14			6	6	9	7	45	644	Ohio, 1932
Oklahoma, 1932				72		5		65	2		14				1							2	161	Oklahoma, 1932
Oregon, 1932				59		6		62	8		9						3			2		1	150	Oregon, 1932
Penn., 1932		14	10	508	13	90	5	415	43		151	6	27		49		8	19	18	15	26	36	1453	Penn., 1932
Rhode Is., '32			1	40	1	2	4	26	4		9		2	1	6				1	1	1	2	101	R. Island, 1932
S. Carolina, '32				47		8		27	1		2								1			1	87	S. Carolina, 1932
S. Dakota, 1932				33	2	4		9	17		17		1						3		4		90	S. Dakota, 1932
Tennessee, 1932				60		6	3	27	3	1	17				1					1	3	1	123	Tennessee, 1932
Texas, 1932				296	1	16		204	10	1	56		1		6				3	5		10	609	Texas, 1932
Utah, 1932				51		4		22	4		11		2						1				95	Utah, 1932
Vermont, 1932				38	3	2		18	2		13				2						3	1	82	Vermont, 1932
Virginia, 1932		5		183		12	1	100	7		12	1			6				3			4	334	Virgina, 1932
Washington, '32				60	3	12	1	83	8		18		1		1				5	5		14	211	Wash., 1932
W. Virginia, '32		1		75		8	1	32	5		13	2							4		2	4	147	W. Virginia, '32
Wisconsin, '32				230	10	20	1	135	9		46	1	1		8		3	2	11	1	7	8	493	Wisconsin, 1932
Wyoming, 1932				38		4		13	3		4				2				1	1			66	Wyoming, 1932
Dist. of Col., '32		2		62	3	5	1	38	9		38											11	169	Dist. of Col., '32
Totals, 1932		166	57	6541	185	816	94	4723	541	22	1584	28	142	3	344		36	105	218	566	138	450	16759	Totals, 1932

Major Specifications and Mechanical Details of 1933 Commercial Cars

LEADING MAKES NATIONALLY DISTRIBUTED

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Cam-shaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electrl System	Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brake Lining	Standard Wheelbase	Chassis Wgt.	Standard Tire Sizes Front	Rear
Austin	400	225	Own	L	4	2.2x3	45.6	7.8	13@3200	G	Hex	Rock	Spic	Own	Til	Gra	Aut	W-G	3	Sal	Sp	5.25	O4M	76.5	75	——	18x3.75	18x3.75
Autocar R	1½	2250	Own	L	6	3¾x4¾	314.0	33.7	75@2400	G	G & O	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Own	Sp	33.5	LO4IHM	380	159	5370	20x7.00	20x7.00D
Autocar RE	2	2300	Own	L	6	3¾x4¾	314.0	33.7	75@2400	G	G & O	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Own	Sp	33.5	LO4IHM	380	159	5400	20x7.50	20x7.50D
Autocar RF	2	2450	Own	L	6	3¾x4¾	314.0	33.7	75@2400	G	G & O	Br-L	Spic	Ross	Str	P	DR	Own	4	Own	Sp	33.0	LO4IHM	380	159	5630	20x8.25	20x8.25D
Autocar RG	2½	2600	Own	L	6	3¾x4¾	314.0	33.7	75@2400	G	G & O	Br-L	Spic	Ross	Str	P	DR	Own	4	Own	2R	39.3	LO4IHM	460	159	5880	34x7	34x7D
Autocar A	2½	3000	Own	L	6	4 x4¾	358.0	38.4	84@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	Sp	33.0	LO4IV	460	150	6350	20x8.25	20x8.25D
Autocar D	3	3500	Own	L	6	4 x4¾	358.0	38.4	84@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	39.3	LO4IV	460	150	6375	34x7	34x7D
Autocar DE	3½	3850	Own	L	6	4 x4¾	358.0	38.4	84@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	40.7	LO4IV	519	150	6890	20x9.00	20x9.00D
Autocar DF	3½	3950	Own	L	6	4 x4¾	358.0	38.4	84@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	40.7	LO4IV	519	150	7220	20x9.00	20x9.00D
Autocar DH	4	4150	Own	L	6	4 x4¾	358.0	38.4	84@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	54.3	LO4IV	519	150	7450	36x8	36x8D
Autocar N	4	4600	Own	L	6	4¼x4¾	404.0	43.4	94@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	45.6	LO4IV	519	191½	7990	20x9.75	20x9.75D
Autocar NE	5	4725	Own	L	6	4¼x4¾	404.0	43.4	94@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	5	Own	2R	50.1	LO4IV	519	149	8300	22x9.75	22x9.75D
Autocar NF	5	4800	Own	L	6	4¼x4¾	404.0	43.4	94@2500	G	G & O	Long	Spic	Ross	Str	P	DR	Own	5	Own	2R	42.1	LO4IV	519	191½	8350	22x9.75	22x9.75D
Autocar NH	5	4925	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Own	5	Own	2R	50.1	LO4IV	519	149	8350	22x9.75	22x9.75D
Autocar S	5	5500	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	54.0	LO4IV	544	158	8700	22x9.75	22x9.75D
Autocar SE	6	5800	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	54.0	LO4IV	544	158	8850	22x10.50	22x10.50D
Autocar CE	7½	6000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Own	4	Own	2R	54.3	O2IM	502	176	10100	36x7S	40x14S
Autocar C	7½	6600	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Br-L	12	Wis	2R	120.5	LO4IV	664	158	10950	24x10.50	24x10.50D
Autocar CBS	7½	6600	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	LN	Own	4	Own	2R	44.1	BO4IM	596	203	10410	20x10.50	20x10.50D
Autocar CF	7½	6900	Wak	L	6	5 x5¾	677.0	60.0	126@1800	G	Own	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Wis	2R	120.5	LO4IV	664	164	11280	24x10.50	24x10.50D
Autocar T	7½	6000	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Own	12	Own	2R	88.5	O4IA	544	192	9700	22x10.50	22x10.50D
Autocar TE	8½	6500	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Br-L	12	Own	2R	87.6	O4IA	660	192	10700	24x10.50	24x10.50D
Autocar TF	8½	6800	Wak	L	6	5 x5¾	677.0	60.0	126@1800	G	G & O	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Own	2R	87.6	O4IA	660	195	10950	24x10.50	24x10.50D
*Autocar FE	20	9500	Ste	L	6	5¼x6	780.0	66.2	156@1800	G	G & O	Br-L	Spic	Ross	Zen	P	NE	Br-L	12	Wis	2R	96.0	T4IA	664	180	12300	24x10.50	24x10.50D
**Autocar 6GE	15	11000	Ste	L	6	5¼x6	780.0	66.2	156@1800	G	G & O	Br-L	Spic	Ross	Zen	P	NE	Br-L	12	Tim	Wo	99.6	T6IA	718	198	16300	22x9.75	22x9.75D
***Autocar HS	3½	4600	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2R	54.3	O2IM	516	114	7600	40x8	40x8D
***Autocar SHS	3½	4800	Own	L	6	4¼x4¾	404.0	43.4	94@2500	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2R	54.3	O2IM	516	114	7900	40x8	40x8D
Brockway 80 C	*10500	1185	Con	L	6	3⅝x4	214.3	27.3	72@3200	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Tim	Sp	36.2	CB4IM	248	149	4075	20x6.50	20x6.50D
Brockway 90 C	*12500	1485	Con	L	6	3⅝x4⅜	248.2	27.3	70@3200	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Tim	Sp	37.4	L4IH	353	149	4355	20x7.00	20x7.00D
Brockway 100 C	*15000	1800	Con	L	6	3⅝x4⅜	248.2	27.3	80@3200	C	G & O	Borg	Spic	Ross	Zen	P	Aut	——	4	Tim	Sp	46.0	L4IH	353	168	4450	20x7.50	20x7.50D
Brockway 120 C	*15000	2090	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Tim	Sp	38.5	L4IH	353	156	5500	20x7.50	20x7.50D
Brockway 140 C	*17500	2690	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	43.5	L4IHV	386	156	6100	20x8.25	20x8.25D
Brockway 141 C	*19500	3175	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	46.2	L4IHV	380	170	6500	20x9.00	20x9.00D
Brockway 170 C	*19500	3450	Con	H	6	4⅛x4⅜	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	46.6	L4IHV	380	170	7100	20x9.00	26x9.00D
Brockway 175 C	*24000	3850	Con	H	6	4⅜x4⅜	427.5	45.9	100@2400	C	G & O	Ful	Spic	Ross	Zen	P	*Aut	Ful	5	Wis	2R	46.6	L4IHV	380	170	7200	20x9.00	20x9.00D
Brockway 195 C	*24000	4000	Con	H	6	4⅛x4⅜	380.9	40.8	89@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	52.4	L4IHV	471	170	8100	20x9.75	26x9.75D
Brockway 220 C	*28000	4700	Con	H	6	4⅜x4¾	427.5	45.9	100@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	50.7	L4IHV	546	170	8675	20x10.50	20x10.50D
Brockway 260 C	*30000	5850	Con	H	6	4½x5¼	501.0	48.6	120@2200	C	G & O	Ful	Spic	Ross	Zen	P	*Aut	Ful	4	Wis	2R	50.7	L4IHV	546	212	9000	22x10.50	22x10.50D
Chevrolet	½	330	Own	H	6	3⅛x4	206.8	26.3	56@2750	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	13.6	O41M	101	109	1880	18x5.25	18x5.25
Chevrolet	1½	480	Own	H	6	3⅛x4	206.8	26.3	56@2750	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	O41M	—	131	2830	30x5	32x6
Chevrolet	1½	510	Own	H	6	3⅛x4	206.8	26.3	56@2750	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	O41M	170	157	2915	30x5	32x6
Diamond T 210 S F	1½	545	Her	L	6	3⅝x4¼	228.0	27.3	60@2800	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	—	L4IH	191	135⅛	3100	20x5.50B	20x6.50B
Diamond T 210 FF	1½	565	Her	L	6	3⅝x4¼	228.0	27.3	60@2800	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	—	L4IH	191	135⅛	3100	20x5.50B	20x6.50B
Diamond T 240 A	1¾	795	Her	L	6	3⅝x4¼	228.0	27.3	60@2800	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	—	L4IH	220	137	3500	20x6.00B	32x6P
Diamond T 310	2	995	Her	L	6	3⅝x4¼	263.0	31.5	68@2800	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	—	L4IH	350	155	4200	20x6.50B	20x6.50DB
Diamond T 320	2½	1295	Her	L	6	3⅝x4¼	282.0	33.7	73@2800	G	G & O	Borg	Spic	Ross	Zen	P	Aut	Cla	5	Cla	Sp	—	L4IH	350	155	4700	20x7.00B	20x7.00DB
Diamond T 410A	3	1695	Her	L	6	4 x4¼	339.0	38.4	100@2800	G	G & O	Borg	Spic	Ross	Zen	P	Aut	Cov	5	Cla	Sp	—	L41HV-T	350	160¾	5400	20x7.50B	20x7.50DB
Diamond T 410B	3	2135	Her	L	6	4 x4¼	339.0	38.4	100@2800	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	4	Cla	Sp	—	L41HV-T	350	200	6100	20x7.50B	20x7.50DB
Diamond T 504 A	3	2650	Her	L	6	4 x4¼	339.0	38.4	100@2800	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Wis	2 R	—	L41HV-T	410	176½	6400	20x8.25B	20x8.25DB
Diamond T 506 A	3	2950	Her	L	6	4¼x4½	383.0	43.3	91@2200	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	5	Wis	2 R	—	L41HV-T	410	184	6400	20x8.25B	20x8.25DB
Diamond T 603	3-4	3395	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	—	L41HV-T	499	169	7500	20x9.00B	20x9.00DB
Diamond T 606 B	3-4	3695	Her	L	6	4½x5¼	501.0	48.6	111@2200	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	5	Wis	2 R	—	L41HV-T	499	187½	7500	20x9.00B	20x9.00DB
Diamond T 510	4	1995	Her	L	6	4 x4½	339.0	38.4	100@2800	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Tim	Sp	—	L41HV-T	408	168	6000	20x7.00B	20x8.25DB
*Diamond T 801	4	4140	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Own	Wo	—	L61HV-T	571	189½	8300	36x8P	36x8P
Diamond T 350	4-5	4925	Her	L	6	4⅝x5¼	529.0	51.4	114@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	—	W41A-T	552	178	9300	22x9.75B	22x9.75DB
*Diamond T 1201	6	5600	Her	L	6	4½x5¼	501.0	48.6	111@2200	G	G & O	Cov	SpicBlo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W41A-T	238	190	11000	34x7P	34x7DP
*Diamond T 1602	8	6400	Her	L	6	4⅝x5¼	529.0	51.4	114@2200	G	G & O	Cov	SpicBlo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W41A-T	238	190	11700	36x8P	36x8DP
*Diamond T 1603	8	7500	Wak	L	6	5 x5¼	677.4	60.0	127@2200	G	G & O	Br-L	SpicBlo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W41A-T	238	194	12500	36x8P	36x8DP
Dodge Bros. UF 10	½	375	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Un	Own	Car	P	DR	Own	3	Own	Sp	12.8	O41H	121	109	1925	19x5.00	19x5.00
Dodge Bros. F 10	½	445	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Un	Own	Car	P	DR	Own	3	Own	Sp	12.8	O41H	121	109	1975	19x5.25	19x5.25
Dodge Bros. G 20	¾-1	597	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	175.8	131	2520	17x7.50	17x7.50
Dodge Bros. G 21	¾-1	642	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	175.8	157	2670	17x7.50	17x7.50
Dodge Bros. UG 20	¾-1	537	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	175.8	131	2450	17x7.50	17x7.50
Dodge Bros. UG 21	¾-1	562	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	175.8	157	2600	17x7.50	17x7.50
Dodge Bros. HC	——	340	Own	L	6	3¼x4¼	189.8	23.4	70@3600	G	——	Borg	Own	Own	B&B	——	DR	Own	3	Own	Sp	12.2	41H	106.1	111¼	1775	17x5.25	17x5.25
Dodge Bros G 22	¾-1	759	Own	L	6	3¼x4¾	217.7	25.3	——	G	——	——	——	——	——	——	——	——	——	——	——	——	——	——	136	3080	——	——
Dodge Bros. UG 30	1½	525	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	176	131	2490	20x6.00	32x6
Dodge Bros. UG 31	1½	550	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	176	157	2640	20x6.00	36x6
Dodge Bros. G 30	1½	585	Own	L	6	3¼x4¾	201.3	23.5	60@3100	C	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	176	131	2560	20x6.00	32x6
Dodge Bros. G 31	1½	610	Own	L	6	3¼x4¾	201.3	23.5	60@3100	C	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O41H	176	157	2710	20x6.00	32x6
†Dodge Bros. UGS 50	1½	875	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O61HV	273	153	3575	20x6.00	32x6S
†Dodge Bros. GS 50	1½	935	Own	L	6	3¼x4¼	211.5	25.3	60@3100	C	Fed	Borg	Cle	Own	Car	P	DR	Own	4	Own	Sp	36.1	O61HV	273	153	3650	20x6.00	32x6S
Dodge Bros. F 36	1½	1485	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	C	Fed	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	O41H	305	165	3972	20x6.00	26x6.00D
Dodge Bros. G 43	2	795	Own	L	6	3¼x4¾	217.7	25.3	73@3200	C	Fed	Borg	Cle	Own	Car	P	DR	Own	5	Own	Sp	50.0	O41H	229	136	3345	20x7.00	20x7.00D
Dodge Bros. G 44	2	825	Own	L	6	3¼x4¾	217.7	25.3	73@3200	C	Fed	Borg	Cle	Own	Car	P	DR	Own	5	Own	Sp	50.0	O41H	229	165	3470	20x7.00	20x7.00D
*Dodge Bros. F 40	2	1995	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	O41H	350	150	5173	20x6.50	20x6.50D
*Dodge Bros. F 41	2	2085	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	O41H	350	165	5211	20x6.50	20x6.50D
Dodge Bros. F 42	2	2180	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	O41H	350	190	5311	20x6.50	20x6.50D
†Dodge Bros. GS 55	2	1260	Own	L	6	3¼x4¾	217.7	25.3	73@3200	C	Fed	Borg	Cle	Own	Car	P	NE	Own	4	Own	Sp	50.0	O61HV	365	158	4450	20x7.00	20x7.00D
Dodge Bros. F 60	3	2645	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	2 R	56.0	O41H	416	146	5543	32x6	32x6D
*Dodge Bros. F 61	3	2575	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	O41H	416	170	5789	32x6	32x6D
*Dodge Bros. F 62	3	2695	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	O41H	416	195	5901	32x6	32x6D
Dodge Bros FS 75	3	3995	Own	L	6	3⅝x5	309.6	31.5	96@3000	G	——	Borg	Own	Own	DL	——	DR	Own	4	Own	Sp	48.8	41H-V	657.1	221	8350	20x9.00	20x9.00
Dodge Bros. G 80	4	5250	Own	L	8	3½x5	384.8	39.2	115@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	62.7	B41A-T	650	146	7640	20x9.75	20x9.75D
Dodge Bros. G 81	4	5285	Own	L	8	3½x5	384.8	39.2	115@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	69.6	B41A-T	650	170	7840	20x9.75	20x9.75D
Dodge Bros. G 82	4	5350	Own	L	8	3½x5	384.8	39.2	115@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	69.6	B41A-T	650	195	8040	20x9.75	20x9.75D
Dodge Bros. G 83	4	5415	Own	L	8	3½x5	384.8	39.2	115@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	69.6	B41A-T	650	220	8400	20x9.75	20x9.75D
Essex Ter. 6	——	330	Own	L	6	2⅞x4¾	193.0	20.7	70@3200	——	——	——	——	——	——	P	——	Own	3	Own	——	——	4M	——	106	——	17x5.25	17x5.25
Federal D 3	*1½	670	Con	L	4	3⅞x4¼	200.5	24.0	50@2700	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	191	130	3225	20x6.00	32x6
Federal E 3	*1½	695	Con	L	6	3⅜x4	215.0	27.3	72@3400	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	191	130	3225	20x6.00	32x6
Federal F 7	*1¾	1325	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Gem	Zen	P	DR	Own	4	Tim	Sp	29.2	L4IH	247	132	3765	30x5	30x5D
Federal F 8	*2	1425	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Gem	Zen	P	DR	Own	4	Tim	Sp	34.0	L4IH	269	132	3865	30x5	30x5D
Federal G 5	*2	995	Con	L	6	3¼x4	215.0	27.0	72@3400	C	Long	Borg	Cle	Gem	Zen	P	DR	Own	4	Tim	Sp	34.0	L4IH	269	132	3800	20x6.50B	20x6.50DB
Federal A 6	*2	1695	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	P	DR	Cla	Sp	38.5	L4IH	270	151	4580	32x6	32x6D
Federal A 6 T	*2½	1995	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	47.1	L4IHV	379	151	5110	32x6	32x6D
Federal A 6 T W	*2½	2130	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	52.9	L4IHV	379	151	5110	32x6	32x6D
Federal T 3 W	*2½	1595	Wak	L	4	4 x5	251.0	25.6	50@2000	G	Long	Borg	Cle	Ross	Zen	P	DR	Own	4	Tim	Wo	36.3	L4IH	337	148	5110	32x6	36x8
Federal A 600	*2½-3	1745	Con	L	6	3¼x4½	288.3	32.6	73@2600	C	Long	Borg	Cle	Ross	Zen	P	DR	Own	4	Cla	Sp	41.5	L4IH	270	157	5050	20x7.50	20x7.50D
Federal T 3 W F A	*2½-3	1795	Wak	L	4	4 x5	251.0	25.6	50@2000	G	Long	Borg	Cle	Ross	Zen	Vac	DR	Own	4	Tim	Wo	43.9	L4IHV	379	148	5400	32x6	32x6D
†Federal D 28 W	*3	1050	Con	L	4	3⅞x4¼	200.5	24.0	50@2700	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	312	140	3925	20x6.00	32x6
†Federal E 2 S W	*3	1150	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	312	145	3975	20x6.00	32x6
Federal D 2 D	*3	1350	Con	L	4	3⅞x4¼	200.5	24.0	50@2700	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	312	140	4235	20x6.00	32x6
Federal E 2 D	*3	1450	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	——	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	312	145	4310	20x6.00	32x6
Federal A 600 T	*3-3½	2045	Con	L	6	3¼x4½	288.3	32.6	73@2600	C	Long	Bor	——	Ross	Zen	P	DR	Own	4	Tim	Sp	50.7	L41HV	379	157	6100	20x8.25	20x8.25D
Federal A 600 T W	*3-3½	2180	Con	L	6	3¼x4½	288.3	32.6	73@2600	C	Long	Bor	——	Ross	Zen	P	DR	Own	4	Tim	Wo	48.8	L41HV	379	157	6100	20x8.25	20x8.25D
Federal A 600 T D R	*3-3½	2180	Con	L	6	3¼x4½	288.3	32.6	73@2600	C	Long	Bo	Cle	Ross	Zen	P	DR	Own	4	Tim	2R	51.3	L41HV	379	157	6100	20x8.25	20x8.25D
Federal T 10 R	*3½-4	2550	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	44.5	L4IHV	379	165	6500	34x7	34x7D
Federal T 10 W	*3½-4	2685	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Wo	44.0	L4IHV	379	165	6550	34x7	34x7D
Federal T 10 D R	*3½-4	2685	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	2R	45.6	L4IHV	379	165	6550	34x7	34x7D
†Federal A 6 S W	*4	2195	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Cla	Sp	38.5	L6IHV	465	164	5620	32x6	32x6D
Federal U 6	*4½-5	3860	Con	H	6	4⅛x4⅜	381.0	40.8	85@2200	C	Long	Borg	Spic	Ross	Zen	P	DR	Own	5	Tim	Wo	50.4	L41HV	465	165	7420	36x8	36x8D
Federal U 6 D R	*4½-5	3860	Con	H	6	4⅛x4⅜	381.0	40.8	85@2200	C	Long	Borg	Spic	Ross	Zen	P	DR	Own	5	Tim	2R	47.6	L41HV	465

Major Specifications and Mechanical Details of 1933 Commercial Cars

LEADING MAKES NATIONALLY DISTRIBUTED

(Continued from Page 9)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brake Lining	Standard Wheelbase	Chassis Wgt.	Tire Sizes Standard Front	Tire Sizes Standard Rear
Gramm C X 6	2	1295	Con	L	6	3⅜x4⅝	248.2	27.3	70@3000	C	Per	Own	Blo	Ross	Til	P	Aut	W-G	4	Tim	Sp	37.9	L4IH	452	131	4150	20x6.50	20x6.50D
Gramm C	2	1795	Lyc	L	6	3⅜x4½	278.6	31.5	82@2600	G	Per	Own	Blo	Ross	Zen	P	Aut	Cov	4	Tim	Sp	31.9	L4IH	353	131	4800	20x7.00	20x7.00D
Gramm C F	2½	1895	Lyc	L	6	3¾x4½	299.0	33.7	85@2800	G	Per	Br-L	Blo	Ross	Til	P	Aut	Br-L	4	Tim	Sp	38.2	L4IH	353	160	4900	20x7.50	20x7.50D
Gramm D	2½	1995	Lyc	L	6	3¾x4½	299.0	33.7	90@2200	G	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	33.0	L4IHV	339	160	5200	20x7.50	20x7.50D
Gramm CXH	2-3	1345	Her	L	6	3¾x4¼	282.0	33.7	73@3000	G	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	37.0	L4IH	353	131	4300	20x6.50	20x6.50D
Gramm E	3	2595	Lyc	L	6	3⅞x5	353.8	36.0	90@2200	G	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	35.0	L4IHV	374	160	5950	20x8.25	20x8.25D
Gramm E Y	3	3595	Con	H	6	4⅛x4¾	380.8	40.8	90@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	39.0	L4IHA	—	190	7200	20x7.50	20x7.50D
Gramm EX	3-4	2295	Con	L	6	3⅞x4½	318.0	36.0	80@2700	—	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Tim	Sp	35.0	L4IHV	339	160	5200	20x8.25	20x8.25D
Gramm ED	3-4½	3995	Cum-D	H	4	4⅞x6	448.0	38.0	85@1800	G	Per	Br-L	Blo	Ross	Zen	P	L-N	Br-L	4	Tim	Sp	39.0	L4IHV	374	160	5600	20x8.25	20x8.25D
Gramm G	4	3695	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Wis	2R	49.5	L4IHV	768	165	8200	20x9.00	20x9.00D
Gramm G 8	4	3695	Lyc	L	8	3¾x4¾	419.6	44.4	130@2700	G	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Wis	2R	—	L4IHV	768	165	8200	20x9.00	20x9.00D
Gramm G Y	4	4345	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Per	Ful	Blo	Ross	Zen	P	Aut	Cov	4	Wis	2R	28.0	BW4IM	736	210	7700	20x8.25	20x8.25D
Gramm G W	5	5175	Con	H	6	4⅜x4¾	428.0	45.9	100@2200	C	Per	Br-L	Blo	Ross	Zen	P	Aut	Br-L	4	Wis	2R	—	4IA	364	157	9500	20x9.00	20x9.00D
Gramm GWD	5	6495	Cum-D	H	6	4⅞x6	672.0	57.0	125@1860	G	Per	Br-L	Blo	Ross	——	P	L-N	Bl	4	Wis	2R	25.5	4IA	864	157	9600	20x9.00	20x9.00D
Gramm H Y	5	6545	Con	L	6	4⅜x5¾	611.4	54.1	127@2300	G	Per	Ful	Blo	Ross	Zen	P	Aut	Ful	4	Wis	2R	25.2	4IA	996	236	10100	20x9.00	20x9.00D
Indiana 85	1½	885	Her	L	6	3⅝x4¼	263.0	31.5	68@2800	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	35.1	L4IH	249	141	3900	20x6.50	20x6.50D
Indiana 85 DR	1½	1190	Her	L	6	3⅝x4¼	263.0	31.5	68@2800	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	5	Wis	2R	40.1	L4IH	316	141	4200	20x6.50	20x6.50D
Indiana 95	2	1095	Her	L	6	3¾x4¼	282.0	33.7	73@2800	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	36.2	L4IH	353	141	4400	32x6	32x6DP
Indiana 95 DR	2½	1275	Her	L	6	3¾x4¼	282.0	33.7	73@2800	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	41.2	L4IH	353	141	4690	20x7.50	20x7.50DB
Indiana 17	2½	2450	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	37.8	L4IHV	398	170	7000	20x8.25	20x8.25D
Indiana 106 DR	2½	1850	Her	L	6	4 x4½	339.0	38.4	76@2400	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	40.3	L4IHV	353	156	6000	20x7.50	20x7.50D
*Indiana 95 SBT 151	3	1675	Her	L	6	3¾x4¼	282.0	33.7	73@2800	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	45.8	L6HIV	559	168	6500	32x6	32x6DP
*Indiana 95 SW 75	3	1735	Her	L	6	3¾x4¼	282.0	33.7	73@2800	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	45.8	L6HIV	459	186	6200	32x6	32x6DP
Indiana 17 DR	3	2675	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	38.6	L4IHV	398	170	7300	20x8.25	20x8.25D
Indiana 106 SW 151	3	2675	Her	L	6	4 x4½	339.0	38.4	76@2400	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	42.6	L6HIV	559	188	7500	32x6.00P	32x6DP
Indiana 19 DR	3½	3400	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	52.3	L4IHV	489	170	8100	20x9.00	20x9.00D
Indiana 17 SBT 251	4	3250	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	37.8	L6HIV	625	188	8200	34x7	34x7D
*Indiana 17 SW 251	4	3475	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	38.1	L6HIV	625	188	8500	34x7	34x7D
Indiana 13 DR	4	4300	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	50.7	L4IHV	546	170	8500	20x9.75	20x9.75D
Indiana 15 DR	5	4800	Her	L	6	4⅝x5¼	529.0	51.3	115@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	45.4	L4IHV	546	170	8700	20x9.75	20x9.75D
Indiana 17 DR	5-7	——	Own	H	6	4⅞x6	672.0	—	125@1930	G	Yo	Br-L	Spic	Ross	——	P	L-N	Br-L	5	Wis	2R	45.4	W4IA	560	170	10500	20x10.50	20x10.50D
International D 1	½	360	Own	L	4	3⅛x4⅛	213.3	26.3	70@3400	G	Moc	Own	Spic	Own	Til	P	Aut	Own	3	Own	Sp	12.8	B4IM	156	113	1950	18x5.25	18x5.25
International A 1	¾	615	Wak	L	4	3⅝x4½	186.0	21.0	59@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	B4IM	212	136	*2887	30x5.50	20x5.50
International M 2	1	850	Wak	L	4	3⅝x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	B4IM	217	118	3180	20x6.50	20x6.50
International A 2	1½	615	Wak	L	4	3⅝x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	B4IM	212	136	2935	20x6.00	20x6.00
International B 2	1½	665	Wak	L	4	3⅝x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	Mec	6	Own	Sp	47.3	B4IM	212	136	2945	20x6.00	20x6.00
International A L 3	1½	1450	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Own	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	42.9	B4IM*	295	138	4032	20x6.00	20x6.50D
International A 3	1½	795	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Rock	Mec	Ross	Zen	P	DR	W-G	4	Own	Sp	33.8	B4IM*	287	136	3572	20x6.00	20x6.00
International A 3½	1½	970	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Rock	Mec	Ross	Zen	P	DR	W-G	4	Own	Sp	34.9	B4IM*	302	136	3680	20x6.00	20x6.00D
International B 4	2	995	Own	H	6	3⅞x4	223.0	28.3	63@3200	G	Mod	Rock	Own	Ross	Zen	P	DR	Own	4	Own	Sp	36.0	B4IM	303	145	4300	30x6.50D	20x6.50D
International A 4	2	1750	Own	H	6	3⅝x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	P	DR	Own	5	Own	Sp	47.8	B4IH*	378	145	5221	32x6	32x6D
International W 1	2½	3850	Hall	H	4	4¼x5½	312.0	28.9	59@2000	C	Own	Own	Own	Ross	Zen	Vac	RB	Own	5	Own	2R	60.5	BO4IM*	710	148	8300	36x5S	36x8S
International A 5	3	2350	Own	H	6	3⅝x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	P	DR	Own	5	Own	Sp	52.6	B4IM*	430	156	5895	34x7	34x7D
International A 6	3	2675	Own	H	6	3⅝x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	P	DR	Own	5	Own	Sp	62.5	B4IM*	430	156	6120	34x7	34x7D
International W 8	3½	4850	Hall	H	4	4¾x5½	390.0	36.1	69@2000	C	Own	Own	Own	Ross	Zen	Vac	RB	Own	5	Own	2R	70.5	BO4IM*	794	160	10125	36x8S	40x12S
International A 7	5-7½	6200	Own	H	6	4½x5½	525.0	48.6	98@1800	G	Mod	Rock	Mec	Ross	Zen	P	DR	Own	5	Own	2R	52.3	BO4IM-T	730	160	11590	20x9.75	20x9.75D
International A 8	7½	6300	Own	H	6	5 x5½	650.0	60.0	115@1800	G	Mod	Rock	Mec	Ross	Zen	P	DR	Own	5	Own	2R	52.3	BO4IM-T	730	160	11590	20x9.75	20x9.75D
LaFrance-Republic C-2	2	1100	Lyc	L	6	3¼x4½	224.0	25.3	61@2800	G	Per	Long	Spic	Ross	Zen	P	Aut	W-G	4	Tim	Sp	35.9	L4IH	287	150	3800	20x6.00	20x6.00
LaFrance-Republic D-2	2-2½	1485	Lyc	L	6	3⅜x4½	242.0	27.3	65@2800	G	Per	Long	Spic	Han	Zen	P	Aut	W-G	4	Tim	Sp	37.9	L4IH	271	162	4600	20x6.50	20x6.50
LaFrance-Republic E-2	2½-3	2095	Lyc	L	6	3¾x4½	299.0	33.5	82@2600	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Tim	Sp	47.0	L4IHV	327	162	5000	32x6	32x6
*LaFrance-Repub. F-3	3-3½	2420	Lyc	L	6	3¾x4½	299.0	33.5	82@2600	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Tim	Sp	50.6	L4IHV	367	174	5625	34x7	34x7
*LaFrance-Repub. H-4	3½-4½	3285	Lyc	L	6	3¾x5	354.0	36.2	86@2300	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Tim	2R	54.0	L4IHV	458	179	7300	20x9.75	20x9.75
*LaFrance-Repub. M-3	4½-5½	4640	Wak	L	6	4⅜x5⅛	462.0	46.0	97@2000	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	5	Tim	2R	62.5	L4IHV	468	174	8300	20x10.50	20x10.50
*LaFrance-Repub. 35-4	6½-7½	6570	Wak	L	6	4⅜x5½	462.0	46.0	125@2400	G	Per	Ful	Spic	Han	Zen	P	Aut	Ful	4	Tim	2R	58.2	W4IA	690	174	9250	24x10.50	24x10.50
†*LaFrance-Republ. 6	9-12	11605	Own	H	12	4 x5	754.0	76.7	240@2900	C	Own	Br-L	Blo	Ross	Zen	P	DR	Br-L	4	Tim	2R	Opt	W61A	782	216	14900	20x10.50	20x10.50
Mack B L	*5400	2500	Own	L	6	3¼x5	248.9	25.4	61@2600	G	Own	Own	Spic	Gem	Str	P	NE	Own	4	Tim	Sp	Opt	L4IH	302	148	4200	20x6.00B	20x6.00DB
Mack B G	*7100	3000	Own	L	6	3⅝x5	309.6	31.6	75@2500	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	Sp	Opt	O4IV	427	156	4950	32x6P	32x6DP
Mack B F	*9100	4200	Own	L	6	3⅝x5	309.6	31.6	75@2500	G	Own	Own	Spic	Han	Str	P	NE	Own	4	Own	2R	Opt	O4IV	427	156	6600	20x8.25B	20x8.25DB
Mack A B-4	*10700	4000	Own	L	4	4¼x5	283.7	28.9	63@2100	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6450	34x7P	34x7DP
Mack A B-4	*10500	4200	Own	L	4	4¼x5	283.7	28.9	63@2100	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O4IV	471	164½	6850	34x7P	34x7DP
Mack A B-6	*10700	4150	Own	L	6	3⅝x5	309.6	31.6	75@2500	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6450	34x7P	34x7DP
Mack A B-6	*10500	4500	Own	L	6	3⅝x5	309.6	31.6	75@2500	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	2R	Opt	O4IV	471	164½	6850	34x7P	34x7DP
Mack B M	*14600	4700	Own	L	6	4 x5½	414.7	38.4	94@2400	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	2R	Opt	O4IV	427	157	7500	20x9.00B	20x9.00DB
Mack B C	*15100	5500	Own	L	6	4 x5½	414.7	38.4	94@2400	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	Ch	Opt	O41H	590	154	8000	36x8P	36x8DP
Mack B C	*15100	5250	Own	L	6	4 x5½	414.7	38.4	94@2400	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	2R	Opt	O4IV	610	154	7850	36x8P	36x8DP
Mack B X	*12900	5750	Own	L	6	4¼x5½	468.1	43.3	105@2400	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	Ch	Opt	O4IV	619	171	8800	22x9.75B	22x9.75DB
Mack B X	*15900	5600	Own	L	6	4¼x5½	468.1	43.3	105@2400	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	2R	Opt	O4IV	619	171	8700	22x9.75B	22x9.75DB
Mack B J	*21000	6450	Own	L	6	4½x5½	525.5	48.6	125@2300	G	Own	Own	Cle	Ross	Str	P	NE	Own	4	Own	2R	Opt	O4IV	618	197	9300	22x10.50B	22x10.50DB
Mack B Q	*21600	6800	Own	L	6	4¾x5¾	610.6	54.1	128@2300	G	Own	Own	Cle	Ross	Str	P	NE	Own	4	Own	2R	Opt	O4IV	618	191	10600	22x10.50B	22x10.50DB
Mack A K-4	*18500	5150	Own	L	4	5 x6	471.2	40.0	75@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O4IV	492	174	9500	36x5S	36x5DS
Mack A K-4	*18500	5250	Own	L	4	5 x6	471.2	40.0	75@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2R	Opt	O4IV	492	174	9400	36x5S	36x5DS
Mack A K-6	*21400	6450	Own	L	6	4¾x5¾	610.6	54.1	128@2300	G	Own	Own	Spic	Ross	Str	P	NE	Own	4	Own	2R	Opt	O4IV	561	186	10400	22x10.50B	22x10.50DB
Mack A C-4-L	*18500	4950	Own	L	4	5 x6	471.2	40.0	75@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	OJXM	478	156	9100	36x5S	40x5DS
Mack A C-4-M	*21100	5500	Own	L	4	5 x6	471.2	40.0	75@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	OJXM	478	168	9800	36x6S	40x6DS
Mack A C-4-H	*26000	6000	Own	L	4	5 x6	471.2	40.0	75@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	OJXM	478	168	10150	36x7S	40x7DS
Mack A C-6	*17300	6450	Own	L	6	4¾x5¾	610.6	54.1	128@2300	G	Own	Own	Spic	Ross	Str	P	NE	Own	4	Own	Ch	Opt	O4IV	755	186	11400	24x10.50B	24x10.50DB
Mack A P	*25700	8500	Own	L	6	5 x6	706.5	60.0	138@1900	G	Own	Own	Spic	Ross	Str	Gra	NE	Own	4	Own	Ch	Opt	O2IV	284	191	11700	36x7S	40x8DS
Mack B X 6 wheel	*21100	7950	Own	L	6	4½x5½	468.1	43.3	105@2400	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	2R	Opt	O6IV	974	170-48	12400	22x8.25B	22x8.25DB
Mack B Q 6 wheel	*21500	9350	Own	L	6	4¾x5¾	610.6	54.1	128@2300	G	Own	Own	Spic	Own	Str	P	NE	Own	4	Own	2R	Opt	O6IV	902	176-52	15600	22x9.75B	22x9.75DB
Mack A K-6 6 wheel	*33600	9000	Own	L	6	4¾x5¾	610.6	54.1	128@2300	G	Own	Own	Spic	Ross	Str	P	NE	Own	4	Own	2R	Opt	O6IV	1044	152-52	15600	22x9.75B	22x9.75DB
Mack A C-6 6 wheel	*35700	8500	Own	L	6	4¾x5¾	610.6	54.1	128@2300	G	Own	Own	Cle	Ross	Str	P	NE	Own	4	Own	Ch	Opt	O6IV	930	145-52	14600	40x8P	40x8DP
Mack A P 6 wheel	*35700	10500	Own	L	6	5 x6	706.5	60.0	138@1900	G	Own	Own	Spic	Ross	Str	Gra	NE	Own	4	Own	Ch	Opt	O6IV	930	145-52	14600	40x8P	40x8DP
Mack A P 6 wheel	*33600	11000	Own	L	6	5 x6	706.5	60.0	138@1900	G	Own	Own	Cle	Ross	Str	Gra	NE	Own	4	Own	2R	Opt	O6IV	1044	152-52	15950	22x9.75B	22x9.75DB
Pierce-Arrow 13S 385	2-2½	2500	Own	L	8	3½x5	385.0	39.2	125@2800	C	Long	Long	Cle	Han	Str	P	DR	Cla	4	Tim	Sp	33.5	B4IM-T	399	160	6000	20x8.25B	20x8.25DB
Pierce-Arrow 15T 298	3-3½	1950	Her	L	6	3¾x4½	298.0	33.7	76@2600	G	Long	Long	Cle	Han	Zen	P	DR	Cla	4	Tim	Sp	40.0	B4IM	399	150	5725	20x8.25B	20x8.25DB
Pierce-Arrow 17T 361	3-4	2350	Her	L	6	4¼x4½	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Sp	34.4	B4IM	399	150	5800	20x8.25B	20x9.00DB
Pierce-Arrow 18W 361	3½-4½	3000	Her	L	6	4¼x4½	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	41.9	B4IA-T	473	150	6660	20x9.00B	20x9.00DB
Pierce-Arrow 19R 428	3½-4½	3600	Her	L	6	4¾x4¾	428.0	46.0	94@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	28.6	B4IA	473	150	6860	20x9.00B	20x3.00DB
Pierce-Arrow 22R 501	4½-5½	3730	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	36.0	B4IA	473	150	7050	20x9.75B	20x9.75DB
Pierce-Arrow 21X 501	5-6	4200	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	40.2	T4IA	618	160	9250	24x10.50B	20x10.50DB
Pierce-Arrow 21M 611	5-6	5000	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	39.9	T4IA-T	618	169	10200	24x10.50B	20x10.50DB
Pierce-Arrow 22X 501	6-7	4600	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	Wo	53.0	TO4IA	720	160	10675	24x10.50B	24x10.50DB
Pierce-Arrow 22M 611	6-7	5400	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	52.5	TO4IA	720	160	11500	24x10.50B	24x10.50DB
Pierce-Arrow 22Y 479	6-7	4400	Her	L	6	4¾x4¾	479.0	51.3	104@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	Wo	53.0	TO4IA	720	160	10675	24x10.50B	24x10.50DB
Pierce-Arrow 31K 641	7½-10	5300	Her	L	6	4¼x4½	361.0	40.3	77@2400	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	42.0	TO4IA	720	170	11675	24x10.50B	40x8DS
Pierce-Arrow 33M 729T	*75000	6400	Her	L	6	5¼x6	779.0	66.1	130@1400	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	51.9	TO4IA	720	190	12750	24x10.50B	24x10.50DB
Pierce-Arrow 22T 361T	*27300	2450	Her	L	6	4¼x5¾	611.0	54.1	130@2000	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Sp	48.1	B4IM	399	150	5725	20x8.25	20x8.25D
Pierce-Arrow 33R 501T	*35000	3806	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	47.3	B4IA	473	150	7050	20x9.75	20x9.75D
Pierce-Arrow 45X 501T	*35000	4800	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	57.2	T4IA	618	160	9500	20x10.50	20x10.50D
†Pierce-Arrow 31L 501S1	*34000	6600	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	49.0	T6IA	1022	200	13200	20x9.75	20x9.75D
†Pierce-Arrow 41K 729S1	*44000	7500	Her	L	6	5¼x6	779.0	66.1	150@1800	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Tim	Wo	47.2	T6IA	1022	180	14500	20x10.50	20x10.50D
†Pierce-Arrow 31K 611S1	*34000	7200	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Tim	Wo	40.6	T6IA	1022	189	14200	20x9.75	20x9.75D
Reo 1 A	1½	625	Own	L	4	3¼x4½	205.0	23.3	51@2500	G	Per	Long	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	5.83	4IH	246	136	2950	20x6.00	32x6
Reo 1 C	1½	665	Own	L	4	3¼x4½	205.0	23.3	51@2500	G	Per	Long	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	5.83	4IH	246	136	3020	20x6.00	32x6
Reo 1 B	1½	795	Own	L	6	3⅛x5	230.0	23.4	63@2800	C	Own	Long	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	5.28	4IH	246	140	3100	20x6.00B	32x6
Reo 1 D	1½	835	Own	L	6	3⅛x5	230.0	23.4	65@2800	C	Own	Long	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	5.83	4IH	246	164	3200	20x6.00	32x6
Reo 2 B	2	1025	Own	L	6	3⅜x5	268.0	27.3	75@2800	C	Own	Long	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	5.83	4IH	289	142	3865	20x6.50	20x6.50D
Reo 2 C	2	1135	Own	L	6	3⅜x5	268.0	27.3	75@2800	C	Own	Long	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	5.83	4IH	289	166	4015	20x6.50	20x6.50D
Reo 2 H	2	1675	Own	L	6	3⅜x5	268.0	27.3	75@2800	C	McC	Br-L	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	6.6	4IH	289	142	4475	20x7.00	20x7.00D
Reo 2 J	2	1695	Own	L	6	3⅜x5	268.0	27.3	75@2800	C	McC	Br-L	Cle	Ross	Zen	P	DR	Own	4	Own	Sp	6.6	4IH	289	166	4650	20x7.00	20x7.00D
Reo 2 K	2	1765	Own	L	6		268.0	27.3	75@2800	C	McC	Br-L	Cle	Ross	Zen	P	DR	Own	4	Own	Sp

ALLIANCE OF RETAIL TRADES ASSOCIATION MEETS WITH SUCCESS

(Continued from Page 1)

ence to trading with chain stores.

In the service station field particularly it is difficult to recognize an independent without some such emblem because so many of the service stations are owned by some large oil company, even though in many instances the service station has every appearance of being independently owned.

The alliance further plans to launch in each community a community advertising campaign, using community publications. This is the only cost to the co-operating independent dealer. The community advertising campaign will be prorated among the co-operating dealers so that each one will pay a small share of the expense.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

RETURN OF BEER AIDING MAKERS OF TRAILERS, TRUCK

(Continued from Page 1)

trailers and truck bodies, with the company having profited from increased brewery activity, which has given it some special body business.

The Kingham Trailer Company, C. H. Kingham, president, last week had its largest week in history, with orders received for fifty-two trailers. This company in addition to building trailers is also building its own bodies of steel and aluminum. Last week the company shipped three trailers to New York, for use of a dairy concern, they being 25-foot trailers, with bodies almost the size of a freight car. They were painted blue and white. The plant is running double shifts, or day and night, employing close to 150 men, and is crowded for room.

In order to prevent theft from trucks by bandits, the company is now building a pressed steel body, with doors at the rear, controlled by a lever locking device at the driver's command or control from his seat.

SEEKING TO PREVENT TRUCK LICENSE WARS

Indianapolis, Ind., May 12.—Appointment of a commission to arrange agreements between Indiana and other states to prevent further truck license was announced by Governor Paul V. McNutt. The commission was appointed in conformity with a 1933 law which created the commission to prevent the numerous truck license wars in which Indiana has been embroiled at various times. Indiana grants, under its license laws, full reciprocity with any state that will accord the same courtesy to Indiana.

Major Specifications and Mechanical Details of 1933 Commercial Cars

LEADING MAKES NATIONALLY DISTRIBUTED

(Continued from Page 10)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Cam-shaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brake Lining	Standard Wheelbase	Chassis Wgt.	Tire Sizes Standard Front	Tire Sizes Standard Rear
Stewart 42 X	1¾	795	Lyc	L	6	3¼x4½	224.0	25.3	62@4600	G	Fed	Borg	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	5.6	B4IM	317.2	145	3730	20x6.50	20x6.50
Stewart 43 X	2	995	Lyc	L	6	3¼x4½	242.0	27.3	65@2800	G	Fed	Bork	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	6.3	B4IM	317.2	145	4375	20x6.50	20x6.50DB
Stewart 45 X	2	1295	Lyc	L	6	3½x4½	242.0	27.3	65@2800	G	Fed	Borg	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	6.37	B4IM	349.3	145	——	20x6.50	20x6.50D
Stewart 29 X S	2½	1695	Lyc	L	6	3¾x4½	298.0	33.7	85@2750	G	Fed	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Cla	Sp	6.37	B4IM	524	145	5394	20x7.00	20x7.00D
Stewart 32 X	3	1990	Lyc	L	6	3¾x4½	298.0	33.7	85@2750	G	Fed	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Cla	Sp	6.37	B4IM	594.6	165	5660	20x7.00	20x7.00D
Stewart 58-S	3	2190	Lyc	L	8	3⅛x4½	322.0	36.5	100@2800	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	5	Cla	Sp	7.10	B4IM	670.2	170	6370	20x7.50	20x7.50DB
*Stewart 18 X	3½	2600	Lyc	L	6	3¾x5	310.0	36.0	90@2750	G	Fed	Fu.	Spic	Ross	Str	P	DR	Ful	5	Tim	Wo	7.25	B4IM	594.6	165	6860	20x7.50	20x7.50D
Stewart 48-8	3½	2980	Lyc	L	8	3¼x4¼	420.0	45.0	130@2800	G	Fed	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Cla	Sp	7.10	B4MV	670.2	170	6950	20x8.25DB	20x8.25DB
Stewart 19 X	3½	3690	Lyc	L	6	3¾x5	354.0	36.2	90@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	12	Tim	Wo	7.25	B4IM	670.2	165	7414	20x9.00	20x9.00D
Stewart 38-8	3½-5	3990	Lyc	L	8	3¾x4¾	462.0	45.0	150@2800	G	Fed	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	7.30	B4IMV	670.2	170	7964	20x9.00	20x9.00D
Stewart 38-6	3½-5	3990	Wak	L	6	4⅜x5½	420.0	45.9	100@2000	G	Fed	Br-L	Spic	Ross	Str	P	DS	Br-L	12	Tim	2R	7.30	B4IMV	708.5	170	7964	20x9.00	20x9.00D
Stewart 31 X	5-6	5190	Wak	L	6	4⅜x5⅛	516.0	51.2	110@2000	G	Mod	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Tim	Wo	8.20	B4IMV	902.7	165	9885	20x9.75	20x9.75D
Stewart 27 X S	7-8	6190	Wak	L	6	4⅝x5⅛	516.0	51.2	110@2000	G	Mod	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Tim	Wo	10.1	W4I	759	165	10762	24x10.50	24x10..0D
Studebaker S 2	1¼-2	670	Own	L	6	3¼x4⅜	230.2	25.4	65@3200	—	McC	Long	Spic	Ross	Str	P	DR	WG	4	Cla	Sp	36.2	B4IM	231	130	3166	20x6.00	32x6
Studebaker S 4	1¾-2½	785	Own	L	6	3¼x4⅜	230.2	25.4	75@3200	—	McC	Long	Spic	Ross	Str	P	DR	WG	4	Cla	Sp	36.2	B4IMV	231	130	3437	20x6.00	20x6.50D
Studebaker S 6	2-3	945	Own	L	6	3¼x4⅜	230.2	25.4	75@3200	—	McC	Long	Cle	Ross	Str	P	DR	WG	4	Tim	Sp	43.5	B4IMV	284	141	3962	20x6.50	20x6.50D
Studebaker S 8	3-4	1350	Own	L	6	3¼x4⅜	230.2	25.4	75@3200	—	McC	Long	Mec	Ross	Str	P	DR	WG	8	Tim	Sp	75.8	B4IMV	420	141	4928	20x6.50	32x6D
White 161 L	* 8000	1760	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4420	20x7.50B	20x7.50DB
White 601 L	* 8000	1850	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	2410	20x7.50B	20x7.50B
White 60 K	* 8500	1850	Own	L	6	3½x4½	260.0	29.4	50@1800	C	Own	Ow	Mec	Han	Zen	Vac	DR	Own	3	Own	Sp	17.6	L4IH	276	112	3905	20x7.00B	20x7.00B
White 161	* 9000	1760	Own	L	4	4 x5¾	289.0	25.6	54@1800	G	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4290	20x9.50B	20x7.50B
White 601	* 9000	1850	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4000	20x7.50B	20x7.50B
White 162 L	* 9000	1960	Own	L	4	4 x5¾	289.0	25.6	54@1800	G	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4710	20x7.00B	20x7.00DB
White 602 L	* 9000	2050	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4500	20x7.00B	20x7.00DB
White 602	10000	2050	Own	L	6	3½x4½	260.0	29.4	54@2100	C	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4050	20x7.00B	20x7.00DB
White 162	*10000	1900	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	Own	Own	Mec	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	138	4260	20x7.00B	20x7.00B
White 211 L	*10500	2300	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	133	5170	20x7.00B	20x7.00DB
White 611 L	*10500	2450	Own	L	6	3¾x4½	299.0	33.7	70@2100	G	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	131	4860	20x7.00B	20x7.00DB
White 611	*11500	2450	Own	L	6	3¾x4½	299.0	33.7	70@2100	G	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	4960	20x7.00B	20x7.00DB
White 211	*11500	2300	Own	L	4	4 x5¾	289.0	25.6	45@1800	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5110	20x7.00B	20x7.50DB
White 212 L	*12000	2650	Own	L	4	4 x5¾	289.0	25.6	45@1800	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	19.5	L4IH	276	133	5500	20x7.50B	20x7.50DB
White 612 L	*12000	2860	Own	L	6	3¾x4½	299.0	33.7	70@2100	G	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IHV	349	131	5295	20x7.50B	20x7.50DB
White 212	*13000	2650	Own	L	4	4 x5¾	289.0	25.6	45@1800	G	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5230	20x7.50B	20x7.50DB
White 612	*13000	2800	Own	L	6	3¾x4½	299.0	33.7	66@2100	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IH	349	148	5295	20x7.50B	20x7.50DB
White 611 A	*14000	450	Own	L	6	3¾x4½	299.0	33.7	77@2400	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	26.4	L4IH	349	148	4960	20x9.00B	20x7.00DB
White 612 A	*14000	2800	Own	L	6	3¾x4½	299.0	33.7	70@2100	C	Own	Own	Spic	Han	Zen	Vac	DR	Own	4	Own	Sp	23.4	L4IHV	349	148	5295	34x7.00P	34x7.00DP
White 620	*15000	3550	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.3	OL4IHV	414	157	7430	20x8.25B	20x8.25DB
White 618 L	*16000	3600	Own	L	6	3¾x4½	299.0	33.7	77@2400	C	Own	Own	Spic	Ross	Zen	Vac	DR	Own	5	Own	2R	57.2	L4IHV	349	152	6775	34x7.00P	34x7.00DP
White 51 A	*17000	3750	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	Sp	35.6	O2IM	335	170	6438	36x5.00P	36x8.00S
White 630 L	*17000	5000	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	37.3	L4IHV	553	157	8500	20x9.00B	20x9.00DB
White 618-618A ..	*18000	3600	Own	H	6	3¾x4½	299.0	33.7	77@2400	C	Own	Own	Spic	Ross	Zen	Vac	DR	Own	5	Own	2R	57.2	L4IHV	349	166	6775	20x9.00B	20x9.00DB
White 621	*18000	4650	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	2R	56.9	O41HV	633	168	9000	20x9.25B	20x9.25DB
White 640	*20000	6100	Own	H	6	4⅜x5¾	519.0	45.9	118@2100	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O41A	633	180	10600	24x9.75B	24x9.75DB
White 630	*20000	5000	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	O41HV	553	168	8500	20x9.00B	20x9.00DB
White 58	*22000	4400	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R	49.7	OPXM	224	180	7707	36x5	36x58D
White 630 A	*22000	5000	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp	41.4	O41HV	553	168	6500	20x9.00B	20x9.00DB
White 641	*24000	6450	Own	H	6	4⅜x5¾	519.0	45.9	119@2100	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	46.9	O41A	633	180	9700	20x9.75B	20x9.75DB
*White 630 SW200	*24000	6245	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Tim	Wo	44.2	OTIHV	677	193	10000	20x8.25B	20x8.25DB
White 631	*24000	5750	Own	H	6	4 x5¼	396.0	38.4	92@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	2R	56.9	O41HV	633	168	9000	20x9.25B	20x9.25DB
White 642	*28000	6750	Own	H	6	4⅜x5¾	519.0	45.9	118@2100	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O41A	633	180	10600	24x9.75B	24x9.75DB
White 58 SS	*30000	5300	Own	L	4	4¼x5¾	326.0	28.9	54@1600	G	Own	Own	Spic	Ross	Zen	Vac	L-N	Own	4	Own	2R	77.6	OPXM	224	196	9300	24x10.50B	24x10.50DB
White 643	*32000	6950	Own	H	6	4⅜x5¾	519.0	45.9	118@2100	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R	66.5	O41A	633	180	10900	24x10.50B	24x10.50DB
White 691	*32000	7250	Own	H	6	4⅝x5¾	580.0	51.3	127@2050	C	Own	Own	Spic	Ross	Zen	P	DR	Own	5	Own	2R	63.0	O41A	623	129½	12200	24x10.50B	24x10.50DB
*White 642 SW320	*34000	8025	Own	H	6	4⅜x5¾	519.0	45.9	118@2100	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	55.6	OTIA	833	198	12670	20x9.00B	20x9.00DB
*White 643 SW420	*40000	6550	Own	H	6	4⅜x5¾	519.0	45.9	118@2100	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo	69.1	OTIA	833	198	14400	40x8	40x8D
Willys 77	——	——	Own	L	4	3⅛x4⅜	134.2	15.6	48@3200	C	Fed	Own	Own	Sag	Til	P	Aut	Own	3	Own	Sp	4.3	B4IM	134	—	——	17x5.00B	17x5.00B

GENERAL NOTATIONS

***†REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

ENGINE—Bud, Buda; Con, Continental; Cum-D, Cummings-Diesel; Her, Hercules; Lyc, Lycoming; Pont, Pontiac; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry; Ster, Sterling Engine Co.

VALVE ARRANGEMENT—L, "L" head; H, in head; O, overhead; S, sleeve.

TYPE OF CAMSHAFT DRIVE—G, gear; C, chain.

RADIATOR MAKE—G&O, G. & O. Mfg. Co.; Per, Perfex Corp; Long, Long Mfg. Co.; Har, Harrison Radiator Corp.; Fed, Fedders Mfg. Co.; McC, McCord Radiator & Mfg. Co.; Mod, Modine Mfg. Co.; Hex, Hexcel Radiator Co.; Yo, Young.

CLUTCH MAKE—Jon, Jones Clutch & Gear Co.; Ful, Fuller & Sons Mfg. Co.; Borg, Borg & Beck Co.; Br-L, Brown-Lipe Gear Co.; Rock, Rockford Drill & Machine Co.; Cov, Covert Gear Co.; Long, Long Mfg. Co.; Detr, Detroit Gear & Machine Co.; Mer, Merchant & Evans; Hel, Merchant & Evans.

UNIVERSALS MAKE—Spic, Spicer Mfg. Co.; Blo, Blood Bros. Machine Co.; Sup, Superior Universal Products; Uni, Universal Products Co.; Cle, Cleveland Steel Products Corp.; Pet, Peters; Opt, optional; Mec, Mechanics Machine Co.

STEERING GEAR MAKE—Ross, Ross Gear & Tool Co.; Han, Hannum Mfg. Co.; Sag, Saginaw Steering Gear Co.; Gem, Gemmer Mfg. Co.; Col, Columbus Gear & Pump Co.; W-G, Warner Gear Corp.

CARBURETOR—B&B, Ball & Ball; Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, gravity; Vac, vacuum tank; P, fuel pump.

ELECTRICAL SYSTEM — AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; NE, North East; RB, Robert Bosch; DR, Delco-Remy.

TRANSMISSION—Br-L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-K, Warner Gear; Cot, Cotta Gear Co.; Cla, Clark Equipment Co.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Pont, Pontiac; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, internal gear; St, straight bevel; Sp, spiral bevel; Wo, worm; 2R, double reduction; Ch, chain; S-T, semi transverse.

TYPE OF SERVICE BRAKES—B4IM, Bendix, 4 wheel internal mechanical; B4MV, Bendix, 4 wheel, mechanical, vacuum; B6IA, Bendix, 6 wheel, internal, air; B4IMV, Bendix, 4 wheel internal mechanical, vacuum; BO4IMV, Bendix, own, 4 wheel, internal, mechanical, vacuum; BrIA, Bendix, operating on 4 rear wheels, internal air; BW4IM, Bendix front, Wisconsin rear, 4 wheel, internal, mechanical; BE4IM, Bendix front, Eaton rear, 4 wheel, internal, mechanical; B4IH, Bendix 4 wheel, internal, hydraulic.

CB4IM, Columbia, Bendix, 4 wheel internal, mechanical; C4IM, Columbia, 4 wheel, internal, mechanical; K2IM, Clark, 2 wheel, internal, mechanical; CR4IA, Christensen-Relay, 4 wheel internal, air.

L4IHVA, Lockheed, 4 wheel internal hydraulic, vacuum, air; LO4ID, Lockheed, own, 4 wheel, internal, drive shaft; LO4IV, Lockheed, own, 4 wheel, internal, vacuum; LT4DV, Lockheed, Timken, 4 wheel, drive shaft, vacuum; L4IH, Lockheed, 4 wheel, internal, hydraulic; L4IHA, Lockheed 4 wheel, internal, hydraulic, air; L4IHV, Lockheed, 4 wheel, internal, hydraulic vacuum; LT4IHV, Lockheed, Timken, 4 wheel, internal, hydraulic, vacuum; LT4IVA, Lockheed, Timken, 4 wheel, internal, vacuum, air; L6IHV, Lockheed, 6 heel, internal, hydraulic, vacuum; L6IH, Lockheed, 6 wheel, internal, hydraulic.

O2IM, Own, 2 wheel, internal, mechanical; O2IV, Own, 2 wheel, internal, vacuum; O4IA, Own, 4 wheel, internal, air; O4IH, Own, 4 wheel, internal, hydraulic; O4IHV, Own, 4 wheel internal, hydraulic, vacuum; O4IM, Own, 4 wheel, internal, mechanical; O4IV, Own, 4 wheel, internal, vacuum; O4M, Own, 4 wheel, mechanical; O2XM, Own, 2 wheel, external, mechanical; O4XM, Own, 4 wheel, external, mechanical; O6IA, Own, 6 wheel, internal, air; OJXM, Own, Jack shaft, external, mechanical; OL4IHV, Own, Lockheed, 4 wheel, internal, hydraulic, vacuum; OPX, Own, propeller shaft, external; OPXM, Own, propeller shaft, external, mechanical; OPM, Own, propeller shaft, mechanical; ORIV, Own, rear wheels, internal vacuum; OTIHV, Own Timken, internal, hydraulic, vacuum.

S4IM, Steeldraulic, 4 wheel, internal, mechanical.

T4rIA, Timken, operating on 4 rear wheels, internal, air; T4IA, Timken, 4 wheel, internal, air; T6IA, Timken, 6 wheel, internal, air; T2IMV, Timken, 2 wheel, internal, mechanical, vacuum.

VB—Vacuum Booster.

W4I, Westinghouse, 4 wheel, internal; W4IA, Westinghouse, 4 wheel, internal, air; W6IA, Westinghouse, 6 wheel, internal, air; 4IA, 4 wheel, internal, air; 4IH, 4 wheel, internal, hydraulic; 4M, 4 wheel mechanical.

T, True-stop. *Models on which True-stop is optional.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

***CHASSIS WEIGHT** according to Automotive Daily News formula, which is the chassis with gas, oil, water and spare tire, but without cab or other equipment.

TIRES—B, balloon; D, dual; S, solid; P, pneumatic.

SPECIAL NOTATIONS

AUTOCAR

*For tractor use only.
**Six wheeler driving from 4 rear wheels.
***Engines in these models are located under driver's seat.

BROCKWAY

*Models equipped with twin ignition.

DIAMOND T

*Six-wheelers.
Additional standard wheel base available as follows:

510	158	750	167, 192
504A	166½	801	180½, 199½
506A	174	1201	174½, 180
603	157, 179	1602	174½, 180
606B	177½	1603	184

DODGE

*Models F40, F41, F61 and F62 can be had with double drop frame.
†Six-wheelers.

FEDERAL

*Six-wheelers.
†Also rated in pounds at total allowable weight as follows:

D 3	8,500	A 600 S W	20,000
E 3	8,500	A 600 D	20,000
F 7	10,000	U S	21,000
F 8	11,500	U 6 D R	21,000
A 6	13,500	A 6 S W	18,500
A 6 T	15,000	C 7	24,000
A 6 T W	15,000	C 7 W	24,000
T 3 W	14,000	C 8	24,000
T 8 W F	15,000	C 8 W	24,000
D 2 S W	12,500	X 8	30,000
E 2 S W	12,500	X 8 D R	30,000
D 2 D	12,500	X 8 R	30,000
2 E D	12,500	X 8 R D R	30,000
A 600	15,000	A 600	15,000
A 600 T	17,000	A 600 T	17,000
A 600 T W	17,000	A 600 T W	17,000
A 600 T D R	17,000	A 600 T D R	17,000
T 10 B	18,000	A 600 S W	20,000
T 10 W	18,000	A 600 D	20,000
T 10 D R	18,000	T 3 W F A	16,000

†Both the four and six cylinder are also offered in 157-inch wheel base at $1,145 and $1,345, respectively.
Model T 10 SW also available in 206 and 224 inch wheel bases.

GENERAL MOTORS TRUCK

*Capacity indicated is the Straight Rating (combined weight of chassis body, equipment and pay load) for which each chassis is designed and guaranteed to satisfactorily operate under average conditions. The size of the tires used does not affect this Straight Rating, but to secure maximum tire mileage it is suggested that the total gross weight be limited to a "recommended gross weight" for each tire equipment based on tire capacity. Prices cover base chassis and vary with wheel base and tire combinations. The number of wheel base lengths, tire types, range of "recommended gross weights" and ton range for each model follows:

Note: Models T-15 to T-61, inclusive, are available for export only as coach chassis.

Model	Wheel Bases	Tire Types	Range of "Rec. Gross Weights"	Ton Range
T-15	3	10	4500- 6500	½-1½
T-18 (200)	2	..	7500- 8200	1½-2
T-18 (221)	2	..	7500- 8500	1½-2
T-19	4	..	7500-10000	1½-2½
T-23 (200)	2	..	8500-10000	2-3
T-23 (221)	3	..	8500-10500	2-3
T-25	3	17	6800- 9000	1½-2
T-26	4	..	9000-11000	2-3
T-30	3	15	10000-12500	2-3
T-31	4	..	11000-14000	2½-4
T-33	4	..	11000-13000	3-3½
T-42	4	12	12000-15000	2½-4
T-43	4	..	12500-16000	3½-4½
T-44	4	12	12000-16000	3-4½
T-45	4	..	13500-16000	3-4½
T-51	4	..	16500-19000	4-5½
T-51H	4	..	16500-22000	5-6½
T-60	4	18	18500-22000	5-6½
T-61	4	..	16500-22000	5-6½
T-82	4	12	19000-24000	5-7
T-83	4	..	20000-25000	5-7½
T-85	3	..	25000-30000	6-8
T-85H	4	..	25000-34000	8-9½
T-90	3	..	22000-28000	5-7½
T-95	2	..	30000-40000	9-11
T-110	3	..	32500-40000	10-12
T-130	3	..	42500-50000	12-15

Optional rear axle gear ratios available for all models. Double reduction axles available for Models T-43, T-45, T-51, T-60, T-61, T-82, T-83 and T-95.

GRAMM

Series	Straight Rating	Wheel Base	Pay Load Range
AX 4	8,000	157	1 to 1½ tons
AX 6	8,000	157	1 to 1½ tons
BX 4	10,000	157	1½ to 2 tons
BX 6	10,000	157	1½ to 2 tons
CX 4	12,000	157-180	2 to 3 tons
CX 6	12,000	157-180	2 to 3 tons
B	12,000	157-174	1¾ to 2½ tons
CXH	13,400	157-180	2 to 3 tons
C	14,000	145-196	2 to 3 tons
EX	16,300	145-210	3 to 4 tons
D	17,000	145-196	2½ to 4 tons
E	20,000	145-224	3 to 4½ tons
ED	20,000	145-210	3 to 4½ tons
EY	.....	.....	3 to 4 tons
G	24,000	165-235	4 to 6 tons
G 8	24,000	165-235	4 to 6 tons
GY	.....	.....	4 to 5 tons
GW	28,000	157-240	5 to 7½ tons
GWD	30,000	157-240	5 to 7½ tons
HY	.....	.....	5 to 6½ tons

†Both the four and six-cylinder are also offered in 157-inch wheel base at $1,145 and $1,345, respectively.

Larger engines and corresponding transmissions, clutches, propeller shaft, axles, etc., are provided on all models of Gramm trucks at extra cost when type of service requires them. Wheel bases, cab to rear of frame, and cab to center line of axle designations may change to suit the special requirements.

Wisconsin double reduction axles are available in all series, except AX and BX.

Gross vehicle weight indicated for each model in the table is the straight rating (combined weight of chassis, body, equipment and payload) for which the chassis is designed and guaranteed to satisfactorily operate under average conditions. Tire sizes should be selected within the tire manufacturers' rating to carry the gross load desired, which must not exceed the straight rating.

INDIANA

*Six-wheelers.

INTERNATIONAL

Brake H. P. values given for International motor trucks are net values obtained with all standard equipment accessories running.

LA FRANCE

†Six wheelers. * These models also available equipped with Diesel engines.

MACK

*Mack capacities are given in Gross Load, which is neither pay load, gross weight nor total tire capacity. Gross Load is the maximum distributed weight of pay load, body and equipment which can be carried without exceeding the Tire and Rim Association rating of the largest capacity tires authorized for each model.

PIERCE-ARROW

*Optional final drive on models except "S" and "T" series.
†Six-wheelers.

REO

Model 2 D can be secured in 166-inch wheel base at $1,095.
†Heavy duty.

ROCKNE

†Price includes panel body.

STERLING

†Six wheelers. *These models also available equipped with Diesel engines.

STEWART

Model 41X also supplied 134-inch wheel base.
Models 42X and 43X also supplied in 145, 160, 176-inch wheel base.
Model 29XS can be supplied in 136, 160, 176 and 190-inch wheel base.
*Models 18X and 32X can be supplied in 148, 190 and 220-inch wheel base.
*Models 19X, 31X and 27XS can be supplied in 148, 172, 190, 220 and 235-inch wheel base.
As optional equipment, Models 16X, 19X, 31X and 27XS can be supplied with Timken dual reduction rear axle.
Models 38-8, 38-6, 48-8 and 58-8 can be supplied in 160, 170, 180, 196, 226 and 241-inch wheel base and worm axle.

WHITE

Six-wheelers.

Ford Co. Issues Bulletin to Fleet Owners on Reconditioned Motors

(Continued from Page 3)

testing apparatus and factory inspection.

Reconditioned motors will be shipped from our Rouge plant for distribution through our dealer organization, where immediate exchange can be arranged. A specially designed packing crate is being used to crate reconditioned motors for shipment. These crates are likewise to be used in returning the replaced motor assemblies. Where fleet owners desire to replace motors in their own shop, a charge of $2 will be made by dealers to cover "packing crate." This amount will, of course, be credited back to you on return of replaced cylinder assembly in original crate.

It is, of course, understood that you will in all cases where reconditioned assemblies are installed in your shop thoroughly clean the returnable cylinder assembly so that it may be readily inspected, as certain defects in the block itself (such as frozen block, cracked valve ports, etc.) would prevent its reconditioning and therefore would not be acceptable for exchange under above policy.

For your information the following operations are performed at our Rouge plant in carrying out the reconditioning plan. Cylinders rebored, block rebabbitted; new pistons, piston rings, wrist pins, reconditioned connecting rods, valve guide bushings, inserts (V8 only) valves, etc., will be installed. In short, all parts necessary will be replaced. This includes crankshafts, camshafts and cylinder blocks where replacement is necessary.

Cylinder assemblies with the following defects will not be accepted for exchange:

1. Cracked blocks.
2. Blocks with one or more cylinders scored so deeply that they cannot be rebored to .045 inch oversize.
3. Blocks that have been rebored or have worn to the limit of .045 inch.
4. Our exchange will cover when bearings have been burned out due to lack of oil, however, if the car has been driven without oil until the crankshaft has been scored beyond the possibility of refinishing and other parts burned and made worthless through abuse and patent neglect, credit for exchange will not be allowed.

Reconditioned cylinder assemblies will be supplied with blocks in the following oversizes: .015 inch; .030 inch, and .045 inch. The assemblies will be exchanged on the basis of the next largest oversize. For example, a block that can be rebored to .015 inch oversize will be replaced with one of that size; one that requires a .030 inch rebore will be exchanged for the .030 inch assembly, and if a .045 inch rebore is necessary the .045 inch oversize assembly will be furnished.

The oversize of the reconditioned assemblies is stamped on the top of the pistons and will also be stamped on the metal tag tacked on the outside of the special shipping box.

Under this new exchange plan reconditioned cylinder assemblies are being carried by the Ford Motor Company and dealers are a service stock item, and you will understand that the original assemblies are replaced by reconditioned motor assemblies and the original assembly is not returned to them, as was formerly the case under our Edgewater branch reconditioning plan, which is now being discontinued.

You are aware of the fact that on our Model V-18 and 40, as well as on our Model B and BB, motor numbers are not carried on the cylinder block but rather on the transmission case and frame. On Model A and AA motors which are reconditioned we carry no motor number, and the motor number from the original block may be installed on the reconditioned block. The motor number on the removed block assembly should be immediately defaced, however, not to a degree that it will make it difficult for us to entirely remove the number and marks of defacing through our milling process.

This practice meets the approval of state authorities. It is necessary however after the change is made to immediately notify the State Motor Vehicle Commission office and along with your notification it is necessary to attach your copy of sales order covering the purchase of the reconditioned block assembly.

The above procedure is necessary in the state of New Jersey, while in New York and Conecticut it will not be necessary to advise the State Motor Vehicle Commission office.

Under this system there will be no need for any delay in making the transfer of cylinder block assemblies.

V-8 Carburetor and Distributor Exchange

Effective at once the following prices have been established for exchange of carburetors and distributors on fleet owner V-8 units:

V- 1— 9510—Carburetor	$1.13
V-40— 9510— "	1.13
V-18—12000—Distributor	1.32
V-40—12000— "	1.32

Instructions on packing and unpacking reconditioned engine assemblies to remove "A" and "B" motor block:

1. Remove four bolts and washers from top
2. Remove top. This should come off easily, but if this should stick, use screw driver to pry up. Do not use hammer.
3. Pull up and remove insert.
4. Pull block straight up and remove.

Note: To repack box, reverse operations.

To remove V-18 or 40 blocks:

1. Remove four nuts and take off top.
2. Next, remove two long bolts from side holding end.
3. Remove end.
4. Tip box up on end and pull up and over motor block, leaving insert in, until box is removed.

Note: To repack, reverse operations.

NEW RETAIL SALES TAX IN N. Y. TO HIT 35,000 MERCHANTS

(Continued from Page 7)

seller is obligated under the terms of the sale to make physical delivery of the goods outside of the state are exempt.

"10. Charge sales occupy the same taxable status as cash sales. The tax on installment sales may be paid in the taxable period in which the installment falls due, within the life of the law, but the terms for the final quarter period, that is, for the period ending June 30, 1934, must include the tax due on all uncollected installments.

"Many of the perplexing questions in connection with the food exemption provisions of the law have been cleared up with the announcement that fruit products as well as fruits are to be considered in the exempt class, the law being silent on fruit products. This definitely moves a large part of the stock of food stores over into the exempt class, including oils and fruit juices, preserves and jellies, apple sauce and apple butter.

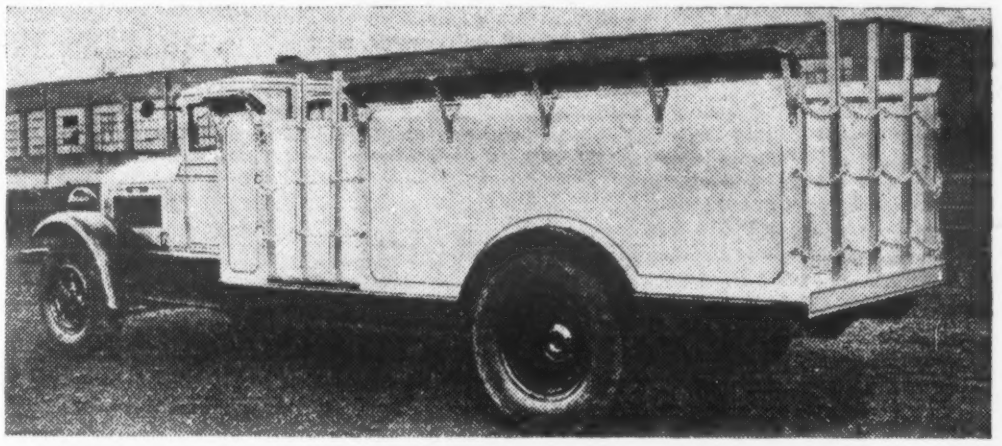
"Another highly important ruling, the full application of which has not yet been determined, puts simple cakes, as distinct from French pastry, and such ordinary table desserts as pie, doughnuts, cookies and sweet crackers, into the food classification.

"Ice cream also has finally moved into the exempt classification when served alone, but remains in the confection class when served with syrups, fruits, nuts or other ingredients.

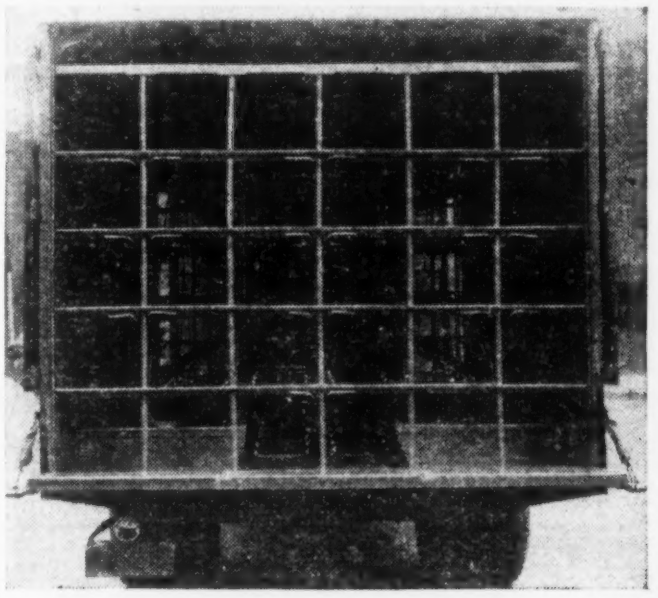
"That business interests have been impressed with the desire and ability of the tax commission to treat their problems with sympathy and understanding is evidenced by the spirit of mutual helpfulness shown in conferences here and at Albany over the framing of administrative regulations."

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

White Company Brewer's Equipment



THE WHITE MODEL 58 SS drop frame chassis provides a loading platform height twenty-five inches above the curb, which facilitates loading and unloading kegs and barrels. The unit shown has a capacity for forty-two whole barrels, or eighty-two half barrels. The side panel provides valuable advertising space



THE INTERIOR of the White Model 618 makes this unit suitable for wholesalers or retailers. This body has a capacity for 168 cases, which are carried on gravity rollers which eliminate manual carrying. The pitch of the tracks rolls the cases to the rear. Barrels and kegs may be carried in the forward part of the body

SOUTHERN STATES STRONGEST IN FIRST QUARTER CAR SALES

(Continued from Page 1)

section was off 19 per cent.; the Eastern section, 15 per cent.; the South, as previously stated, 10 per cent.; the Great Lakes section, 14 per cent.; the Middle West, 12½ per cent.; (but in this section Oklahoma registered a gain); the Rocky Mountain section was off 26 per cent., and the Pacific Coast about 11½ per cent.

The following tables show the comparative registrations by states according to geographical sections for the first quarter of 1933 as compared with 1932:

NEW ENGLAND

State	First quarter, 1933	First quarter, 1932
Connecticut	3,121	3,735
Maine	1,102	1,509
Massachusetts	8,726	10,291
New Hampshire	756	1,007
Rhode Island	1,402	1,691
Vermont	416	618
Totals	15,523	18,851

EAST

Delaware	725	768
Maryland	3,587	4,166
New Jersey	9,667	12,202
New York	31,155	32,997
Pennsylvania	17,179	22,082
West Virginia	1,923	2,036
Totals	64,236	74,351

SOUTH

Alabama	1,616	1,898
Arkansas	2,875	2,496
Florida	4,418	4,176
Georgia	1,841	3,653
Kentucky	3,628	3,153
Louisiana	2,677	2,394
Mississippi	1,204	1,200
Missouri	9,348	14,466
North Carolina	3,503	2,791
South Carolina	1,574	1,401
Tennessee	2,575	2,442
Texas	12,036	9,930
Virginia	3,691	6,076
Dist. of Col.	2,848	3,095
Totals	53,839	59,171

GREAT LAKES

Illinois	14,763	15,602
Indiana	6,963	8,177
Michigan	11,979	12,685
Minnesota	4,232	5,528
Ohio	13,231	14,368
Wisconsin	3,602	7,179
Totals	54,770	63,539

MIDDLE WEST

Iowa	3,161	3,547
Kansas	1,949	3,042
Nebraska	1,981	3,023
North Dakota	497	707
Oklahoma	4,783	3,688
South Dakota	734	1,044
Totals	13,105	15,051

ROCKY MOUNTAINS

Arizona	526	591
Colorado	2,374	3,591
Idaho	392	561
Montana	700	969
Nevada	268	330
New Mexico	532	481
Utah	676	824
Wyoming	490	972
Totals	5,958	8,319

PACIFIC COAST

California	17,065	18,649
Oregon	1,258	1,624
Washington	2,272	3,009
Totals	20,595	23,282

PNEUMATIC CASING SHIPMENTS IN MARCH, DECLINE ONLY 8.7%

New York, May 12.— Shipments of pneumatic casings for the month of March amounted to 2,091,878 casings, a decrease of 8.7 per cent. under February, and 29.2 per cent. below March, 1932, according to statistics released by the Rubber Manufacturers' Association, Inc., today.

This organization reports production of pneumatic casings for March to be 2,037,899 casings, a decrease of 12.9 per cent. under February, and 44.5 per cent. under March, 1932.

Pneumatic casings in the hands of manufacturers March 31, amounted to 7,289,976 units, a decrease of 1.2 per cent. under February 28 stocks, and 26.2 per cent. under March 31, 1932.

The actual figures are as follows:

SHIPMENTS

March, 1933	2,091,878
February, 1933	2,292,463
March, 1932	2,954,040

PRODUCTION

March, 1933	2,037,899
February, 1933	2,339,373
March, 1932	3,671,090

INVENTORY

March, 1933	7,289,976
February, 1933	7,376,946
March, 1932	9,877,823

FRED C. BURNETT JOINS RYERSON & HAYNES, INC.

Jackson, Mich., May 12.—Fred C. Burnett, known in automotive circles for his activities in the tire cover field, has been appointed director of sales of Ryerson & Haynes, Inc., manufacturer of metal tire covers and other automotive products. Mr. Burnett recently resigned as general sales manager of the Federal Pressed Steel Company, Milwaukee.

CASTNER APPOINTED DIRECTOR OF WHITE DEALER OPERATIONS

(Continued from Page 1)

position his headquarters will be at Cleveland.

In addition to his duties as director of dealer operations, Mr. Castner will assist White district and branch offices throughout the country in the development of Studebaker truck business.

Mr. Castner is well known in the truck industry. He became associated with the sales department of Studebaker ten years ago, following his graduation from the University of Notre Dame, where he was an All-American football player, coached by the late Knute K. Rockne. He was also closely associated in Studebaker sales work with Rockne in his travels throughout the United States until the latter's death in 1931.

COLLINS & AIKMAN MAY SCHEDULES UP 30%; BEST IN 2 YEARS

(Continued from Page 1)

made it necessary to step up production more than 30 per cent.

The company's mills in Rhode Island, Pennsylvania and North Carolina are operating at greater capacity now than they have at any time during the past two years, due not only to stimulated business but also to the very favorable reception of their new line of mohair velvets.

These are characterized by a very low pile surface that makes them more comfortable, more pleasant to the touch and more easily cleaned than old types of "plush." Cars in all price classes are now being trimmed in these new fabrics, the company states.